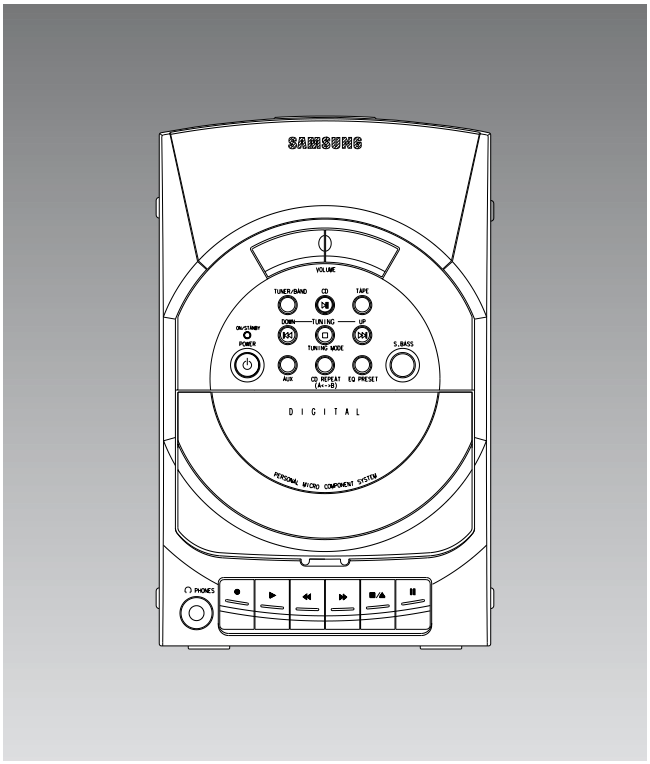
SAMSUNG

MICRO COMPONENT SYSTEM

MM-N2

SERVICE Manual

MICRO COMPONENT SYSTME



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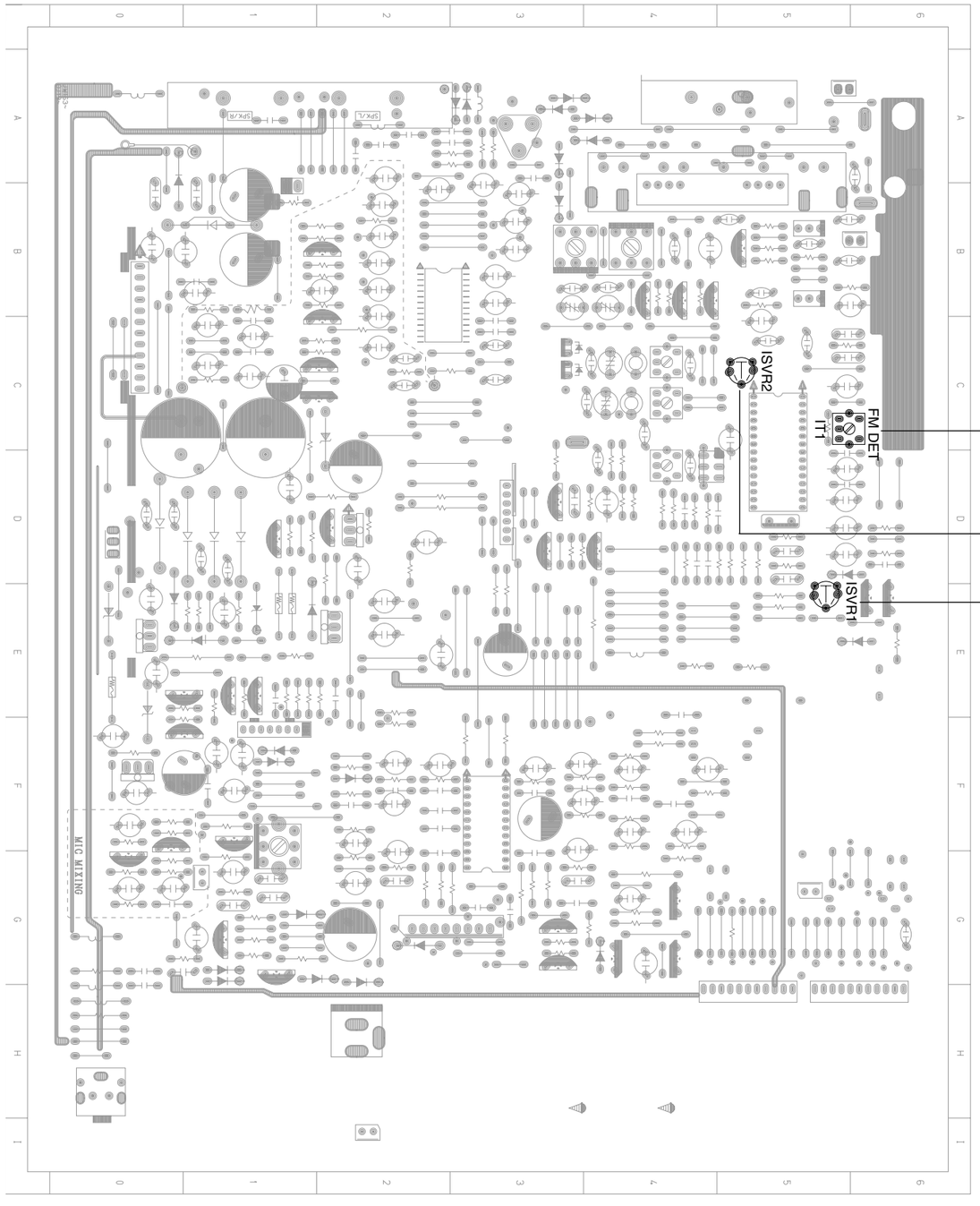
1. Alignment and Adjustments

1-1 Tuner



FM THD Adjustment	
SSG FREQ.	98 MHz
Adjustment point (IT1)	FM DETECTOR COIL
Minimum Distortion (Figure 1-1)	

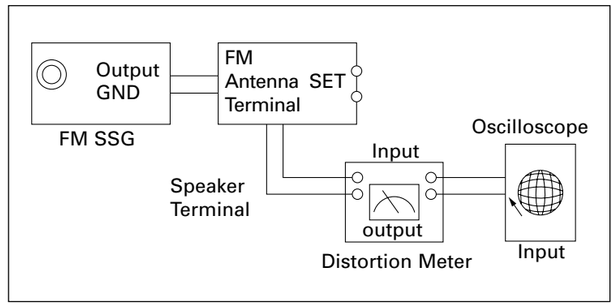


Figure1-1 IF CENTER and THD Adjustment

FM Search Level Adjustment	
SSG FREQ.	98 MHz
Adjustment point (ISVR2)	BEACON SENSITIVITY SEMI-VR(50KΩ)
Adjust ISVR2 so that "TUNED" of LCD is lighted (Figure 1-2)	

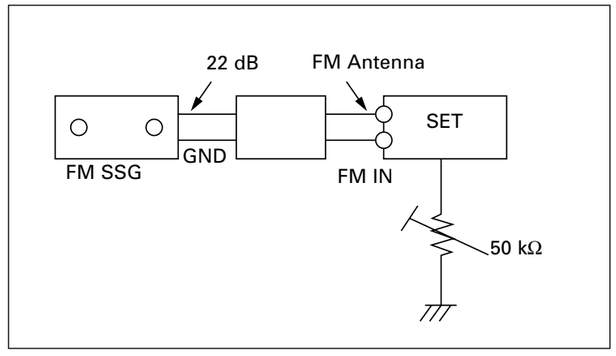


Figure1-2 FM Auto Search Level Adjustment

FM Stereo Adjustment	
SSG FREQ.	98MHz
Frequency	98MHz
Adjustment point (ISVR1)	SEMI-VR(5KΩ)
L-CH/R-CH : Maximum(Figure 1-3)	

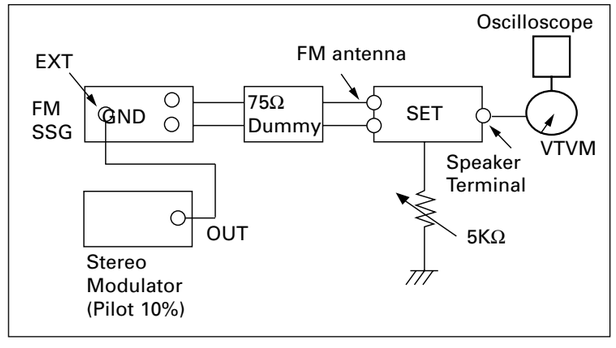


Figure1-3 FM Stereo Separation Adjustment

1-1-1 Test Equipment

1. AM Standard Signal Generator (S.S.G) : 400Hz, 30% MOD
2. Oscilloscope
3. VTVM
4. Frequency counter
5. Loop antenna
6. Dummy load (4Ω)
7. DC voltmeter

1-1-2 Pre-Adjustment

1. Check the source voltage
2. Press TUNER/BAND to select the AM(MW) function.
3. Set the volume control to mid position.

1-1-3 AM Adjustment

Step	Item	Connection	SSG.FREQ.	FREQ. Setting	Adjust. Point	Remark
1	Intermediate frequency (IF) adjustment	Figure 1-5	450 KHz	522 KHz	IT 2	Maximum output
2	AM frequency coverage adjustment	Figure 1-4 Connect DC voltmeter to AM VT and GND(OKV1)	-	522 KHz	OT 1	0.9V
3			-	-	-	Non Adjust
4	AM tracking adjustment	Figure 1-5	594 KHz	594 KHz	OL 1	Maximum output
5		-	-	-	-	Non Adjust

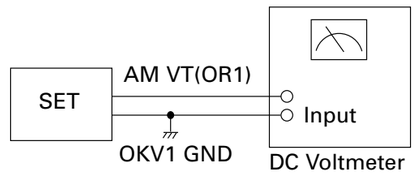


Figure 1-4

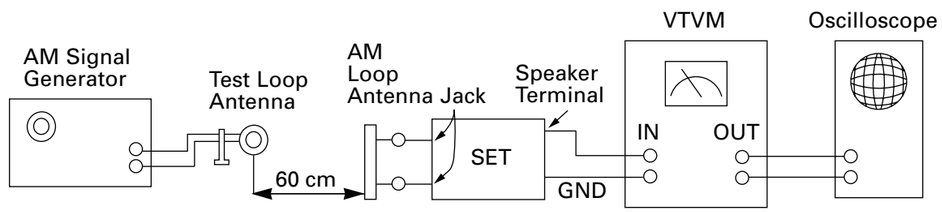


Figure 1-5

1-2 Cassette Deck

1-2-1 Additional Test Equipment : Testing Tape

1. MTT-111 (or equipment) : Test tape on which 3KHz signal is recorded (Tape speed adjustment)
2. MTT-113CN (or equivalent) : Test tape on which 8KHz signal is recorded (Azimuth adjustment)

Step	Item	Tape	Location no.	Adjustment Point	Remark
1	Tape speed	Figure 1-6	Insert MTT-111 to Deck. Press PLAY button	SVR Inside motor	3KHz
2	AZIMUTH (DECK) adjustment	Figure 1-8	Insert MTT-113CN to Deck. Press PLAY button	Figure 1-7	Maximum output and identical phase of L,R channel. Set the screw after adjustment

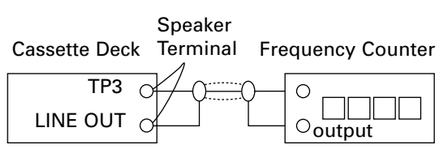


Figure 1-6

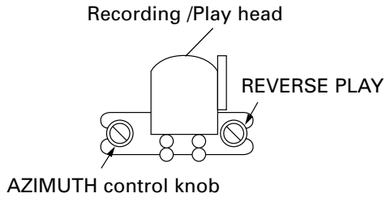


Figure 1-7

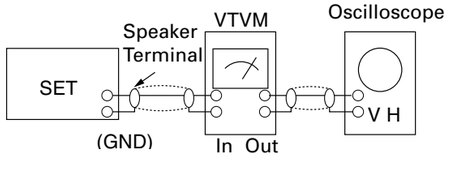


Figure 1-8

3. Electrical Parts List

Location no.	Code no.	Description & Specifiation	Remarks
		***** MM-N2 PARTS *****	
	AH39-10002L	POWER CORD;CP2,KLCE-2F,2.15M,5239,VDE	Option
	AH39-10002M	POWER CORD;EP2,SPT-1#28,2.0M,UL/CSA	Option
		ASSY-PCB MAIN;MM19	
AC607	2401-000131	C-AL;1000uF,20%,16V,GP,TP,10x20mm,5	
AC609	2401-001925	C-AL;2200UF,20%,25V,GP,BK,16X26,7.5	
AC657	2401-000131	C-AL;1000uF,20%,16V,GP,TP,10x20mm,5	
AIC1	1201-000334	IC-POWER AMP;8207,SIP,12P,-,DUAL,-,PLAST	
AIC601	AH62-32004A	HEAT SINK;-,AL,-,T2.0,-,-,-,MM17	
AJ1	3716-000209	TERMINAL-BLOCK;,-,-,60V,7A	
AJ2	3722-001311	JACK-PHONE;7P,3.6MM,-,AG,BLK,NO	
RJ3	3722-000342	JACK-DC POWER ; 2P,2MM,NI,BLK,#16~22	
AW1	AH39-50001H	LEAD-FASTEN;RING,1007#24,100MM,BLK	
AW2	3811-000122	WIRE-PVC CU ; BCWA,300V,150MM, 1007#26	
C4369	6003-000276	SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC	
CDP	AH39-20559H	LEAD CONNECTOR-ASSY;-,51004-08,50011-800	
RCW5	AH39-20001U	LEAD CONNECTOR-ASSY; 5264, - , 2P, 150MM,1007#26	
FCON1	3711-000820	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,STRAIGH	
FM-ANT	AH39-50030C	LEAD-PASTEN;110REC,1007#26,1000mm,BLK	
FT1	AH40-10025N	TUNER-FM ;KST-401VA,3G,75OHM	
FTP1	AH61-40022A	STUD-TAP;SPC1,T0.5,BT2,-,-,	
ICF1	2903-000105	FILTER-CERAMIC;BP,10.7MHz+-25KHz,180KHz+	
ICF2	2903-000105	FILTER-CERAMIC;BP,10.7MHz+-25KHz,180KHz+	
ICF3	2802-000215	RESONATOR-CERAMIC;19KHZ,+-38HZ,-,7.0X3.5	
ICF4	14529-304-610	FILTER CERAMIC;AHCM2-450BL	
IIC1	AH14-10002D	IC;LA1851N,,	
IT1	AH26-10001C	TRANS-IF;KS940228-10,FM,-,7.6X12.0,-,-,B	
IT2	AH26-10001E	TRANS-IF;KS940228-09,-,-,7.6X12.0,-,450K	
JC310	2401-000131	C-AL;1000uF,20%,16V,GP,TP,10x20mm,5	
JCN301	3711-003112	CONNECTOR-HEADER;BOX,8P,1R,2.5mm,STRAIGH	
JIC301	1201-000358	IC-PREAMP;22291,DIP,24P,-,DUAL,-,PLASTIC	
KT431	AH26-10002G	TRANS-IF;IODT-N5002,BIAS-OSC,3.7mH,7.6X	
OC1	2302-000235	C-FILM,PSF;470PF,5%,50V,BK,6X11.5,2.5MM	
OC2 (Option)	2302-000235	C-FILM,PSF;470PF,5%,50V,BK,6X11.5,2.5MM	
OC8	2502-000127	C-CERAMIC TRIMMER;20-4.6PF,+50-0%,100V	
OCON1	3711-000814	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,ANGLE,S	
RCON5	3711-000820	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,STARIGH	
OKV1,2	0405-000140	DIODE-VARACTOR;SVC321SP,-15V,-100NA,TO-9	
OL1	AH26-10020D	TRANS-IF;KS980205-04,MW-ANT,245µH	
OL2(Option)	AH26-10020E	TRANS-IF;KS980205-03,LW-ANT,2.6mH	
OT1	AH26-10001K	TRANS-IF;KS940228-02,-,110uH,7.6X12.0,-	
OT2(Option)	AH26-10001J	TRANS-IF;KS940228-01,-,300uH,7.6X12.0,-	
QIC501	1204-001465	IC-VOLUME/TONE ; TDA7440D,SOP,28P	
RC705	2401-001052	C-AL;3300UF,20%,25V,GP,-,16X31.5,7.	
RC706	2401-000131	C-AL;1000uF,20%,16V,GP,TP,10x20mm,5	
RCW701	AH39-20560R	LEAD CONNECTOR-ASSY;-,5264,35022,3P,200m	
RD701	0402-000157	DIODE-RECTIFIER;1N5402,200V,3A,DO-201AD	
RD702	0402-000157	DIODE-RECTIFIER;1N5402,200V,3A,DO-201AD	
RD703	0402-000157	DIODE-RECTIFIER;1N5402,200V,3A,DO-201AD	
RD704	0402-000157	DIODE-RECTIFIER;1N5402,200V,3A,DO-201AD	
RD710	0402-000157	DIODE-RECTIFIER;1N5402,200V,3A,DO-201AD	
RD711	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41,TD	
RIC1	1203-000276	IC-POSI.FIXED REG.;7805,TO-220,3P,-,PLAS	
RQ703	0502-000303	TR-POWER;KSD882,NPN,1W,TO-126,TP,160-32	
SCON1	3711-001234	CONNECTOR-HEADER;NOWALL,11P,1R,2.0mm,ANG	
SCON2	3711-001234	CONNECTOR-HEADER;NOWALL,11P,1R,2.0mm,ANG	
TA8207	6003-000276	SCREW-TAPTITE;BH,+,B,M3,L10,ZPC(YEL),SWC	
UCN901	3711-001137	CONNECTOR-HEADER;BOX,8P,1R,2mm,STRAIGHT,	
UQ901	0502-000407	TR-POWER;KTC4369Y,NPN,15W,TO-220,BK,120	
ZJ1	3722-000377	JACK-RCA;4P/2C,3.5mm,SN,BLK,#16~22	

Location no.	Code no.	Description & Specifiation	Remarks
		ASSY-PCB MAIN,AUTO;MM19	**S.N.A.**
AC601	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
AC602	2202-000850	C-CERAMIC,MLC-AXIAL:2.2NF,30%,16V,Y5R,TP	
AC603	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
AC604	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
AC605	2401-000303	C-AL;100uF,20%,25V,GP,TP,6.3x11,2.5	
AC606	2301-000387	C-FILM,PEF;150nF,10%,50V,12.5x15x7.5,7mm	
AC608	2401-001113	C-AL;330UF,20%,25V,GP,-,10X12.5,5MM	
AC611	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
AC651	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
AC652	2202-000850	C-CERAMIC,MLC-AXIAL:2.2NF,30%,16V,Y5R,TP	
AC654	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
AC655	2401-000303	C-AL;100uF,20%,25V,GP,TP,6.3x11,2.5	
AC656	2301-000387	C-FILM,PEF;150nF,10%,50V,12.5x15x7.5,7mm	
AC666	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
ACH1	2701-000114	INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm	
ACH2	2701-000114	INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm	
ACH3	2701-000114	INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm	
AR601	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
AR603	2001-000938	R-CARBON;68ohm,5%,1/8W,AA,TP,1.8x3.2mm	
AR604	2001-000552	R-CARBON;270ohm,5%,1/4W,AA,TP,2.4x6.4mm	
AR605	2001-000525	R-CARBON;22ohm,5%,1/4W,AA,TP,2.4x6.4mm	
AR651	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
AR653	2001-000938	R-CARBON;68ohm,5%,1/8W,AA,TP,1.8x3.2mm	
AR654	2001-000552	R-CARBON;270ohm,5%,1/4W,AA,TP,2.4x6.4mm	
FC1	2201-000144	C-CERAMIC,DISC;100pF,5%,50V,CH,TP,8x3,5	
FC2	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
FC4	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
FD1	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
FD2	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
FR1	2001-000817	R-CARBON;5.6ohm,5%,1/8W,AA,TP,1.8x3.2mm	
FR6	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
IC1	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
IC10	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
IC11	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
IC13	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
IC14	2202-000807	C-CERAMIC,MLC-AXIAL:22NF,+80-20%,25V,Y5V	
IC15	2202-000807	C-CERAMIC,MLC-AXIAL:22NF,+80-20%,25V,Y5V	
IC16	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
IC17	2202-000796	C-CERAMIC,MLC-AXIAL;UP050B102KB 1NF,10%,	
IC18	2301-000419	C-FILM,PEF;27nF,10%,50V,7.5x10.5x4mm,5mm	
IC19	2301-000419	C-FILM,PEF;27nF,10%,50V,7.5x10.5x4mm,5mm	
IC2	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
IC20	2202-000807	C-CERAMIC,MLC-AXIAL:22NF,+80-20%,25V,Y5V	
IC3	2301-000422	C-FILM,PEF;3.3NF,10%,50V,TP,5.5X7X3MM,5M	
IC4	2301-000379	C-FILM,PEF;10NF,10%,50V,TP,6X7X3.2MM,5MM	
IC5	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
IC6	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
IC7	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
IC8	2401-001022	C-AL;3.3UF,20%,50V,GP,-,5X11,2MM	
IC9	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
ICH1	2701-000114	INDUCTOR-AXIAL;10uH,10%,2.5x3.4mm	
ID1	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
ID2	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
IQ1	0501-000392	TR-SMALL SIGNAL;KSC838-O,NPN,250mW,TO-92	
IQ2	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	

Location no.	Code no.	Description & Specifiation	Remarks
IQ3	0504-001003	TR-DIGITAL;KSR2003,PNP,300MW,22K-22K,TO-	
IQ4	0504-000118	TR-DIGITAL;KSR1003,NPN,300mW,22K-22K,TO-	
IR1	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR10	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
IR11	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR12	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR13	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR14	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR15	2001-000563	R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR16	2001-000563	R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR17	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR18	2001-000591	R-CARBON;3.3Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR19	2001-000591	R-CARBON;3.3Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR2	2001-000003	R-CARBON;330ohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR20	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR21	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR22	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR23	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR24	2001-000548	R-CARBON;270Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR25	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
IR26	2001-000525	R-CARBON;22ohm,5%,1/4W,AA,TP,2.4x6.4mm	
IR27	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR28	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR3	2001-000005	R-CARBON;390ohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR4	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR5	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR6	2001-000702	R-CARBON;39Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
IR7	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
IR8	2001-000591	R-CARBON;3.3Kohm,5%,1/8W,AA,TP,1.8x3.2m	
IR9	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
ISVR1	2103-000492	VR-SEMI;5KOHM,30%,1/10W,TOP	
ISVR2	2103-000007	VR-SEMI;50Kohm,30%,1/10W,SIDE	
JC301	2202-000847	C-CERAMIC,MLC-AXIAL;1,8NF,30%,50V,Y5S,	
JC302	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
JC303	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
JC304	2301-000412	C-FILM,PEF;22NF,10%,50V,TP,6.5X10.5X4MM,	
JC305	2202-000850	C-CERAMIC,MLC-AXIAL;2.2NF,30%,16V,Y5R,TP	
JC306	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
JC307	2401-000240	C-AL;100UF,20%,10V,GP,TP,6X11MM,5MM	
JC308	2401-000795	C-AL;220UF,20%,16V,GP,-,8X11.5,3.5M	
JC309	2401-000795	C-AL;220UF,20%,16V,GP,-,8X11.5,3.5M	
JC351	2202-000847	C-CERAMIC,MLC-AXIAL;1,8NF,30%,50V,Y5S,	
JC352	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
JC353	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
JC354	2301-000412	C-FILM,PEF;22NF,10%,50V,TP,6.5X10.5X4MM,	
JC355	2202-000850	C-CERAMIC,MLC-AXIAL;2.2NF,30%,16V,Y5R,TP	
JC356	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
JC512	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
JC562	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
JD301	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
JD302	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
JD303	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
JD306	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
JD304	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
JQ301	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
JQ302	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
JQ303	0504-001003	TR-DIGITAL;KSR2003,PNP,300MW,22K-22K,TO-	
JQ304	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
JQ305	0504-000121	TR-DIGITAL;KSR1007,NPN,300MW,22K-47K,TO-	
JQ306	0501-000294	TR-SMALL SIGNAL;KSA708-Y,PNP,800mW,TO-92	
JQ355	0504-000121	TR-DIGITAL;KSR1007,NPN,300MW,22K-47K,TO-	
JR301	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR302	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR303	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR304	2001-000325	R-CARBON;120ohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR305	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR307	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR308	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR309	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR310	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR311	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR312	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR313	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR314	2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR315	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR351	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR352	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR353	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR354	2001-000325	R-CARBON;120ohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR355	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
JR363	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
JR364	2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KC401	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
KC402	2401-001968	C-AL;470NF,20%,50V,GP,TP,5X11MM,5	
KC403	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
KC404	2202-000850	C-CERAMIC,MLC-AXIAL;2.2NF,30%,16V,Y5R,TP	
KC405	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
KC406	2202-000848	C-CERAMIC,MLC-AXIAL;1.5NF,30%,50V,Y5S,TP	
KC407	2202-000807	C-CERAMIC,MLC-AXIAL;22NF,+80-20%,25V,Y5V	
KC408	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
KC410	2401-000240	C-AL;100UF,20%,10V,GP,TP,6X11MM,5MM	
KC411	2401-000907	C-AL;22UF,20%,16V,GP,-,5X11,2MM	
KC431	2401-001975	C-AL;47UF,20%,16V,GP,TP,5X11MM,5	
KC432	2301-000379	C-FILM,PEF;10NF,10%,50V,TP,6X7X3.2MM,5MM	
KC433	2301-000379	C-FILM,PEF;10NF,10%,50V,TP,6X7X3.2MM,5MM	
KC434	2301-000400	C-FILM,PEF;1NF,10%,50V,TP,5X7X2.8MM,5MM	
KC451	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
KC452	2401-001968	C-AL;470NF,20%,50V,GP,TP,5X11MM,5	
KC453	2401-001465	C-AL;47UF,20%,10V,GP,-,5X11,2MM	
KC454	2202-000850	C-CERAMIC,MLC-AXIAL;2.2NF,30%,16V,Y5R,TP	
KC454	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
KC455	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
KC456	2202-000848	C-CERAMIC,MLC-AXIAL;1.5NF,30%,50V,Y5S,TP	
KD401	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
KD402	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
KD403	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
KD404	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
KQ431	0501-000394	TR-SMALL SIGNAL;KSC900-L,NPN,250mW,TO-92	
KR402	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR403	2001-001006	R-CARBON;82ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR404	2001-000008	R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR405	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR406	2001-000773	R-CARBON;470Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR407	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR408	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR409	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR411	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR412	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR413	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR415	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR431	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	

Location no.	Code no.	Description & Specifiation	Remarks
KR432	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR433	2001-000417	R-CARBON;18ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR434	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR452	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
KR453	2001-001006	R-CARBON;82ohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR454	2001-000008	R-CARBON;15Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
KR457	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
NIC1	2201-000381	C-CERAMIC,DISC;22nF,20%,50V,Y5V,8.0X4.0m	
NIC4	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
NIC5	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
NIC6	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
NIC7	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
OC10	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
OC3	2201-000305	C-CERAMIC,DISC;1PF,0.3PF,50V,CH,TP,5.0X3	
OC4	2201-000144	C-CERAMIC,DISC;100pF,5%,50V,CH,TP,8x3,5	
OC5	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
OC6	2201-000846	C-CERAMIC,DISC;47NF,+80-20%,50V,Y5V,TP,8	
OC7	2201-000582	C-CERAMIC,DISC;4PF,0.3PF,50V,CH,TP,5.0X3	
OC9	2301-000419	C-FILM,PEF;27nF,10%,50V,7.5x10.5x4mm,5mm	
OD1	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
OD2	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
OQ1 (Option)	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
OQ2 (Option)	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
OQ3 (Option)	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
OQ4	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
OQ5	0505-000236	FET-SILICON;2SK583,N,50V,200mA,20ohm,600	
OR1	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
OR10	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
OR2	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
OR3	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
OR4	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
OR5	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
OR6	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
OR7	2001-000548	R-CARBON;270Kohm,5%,1/8W,AA,TP,1.8x3.2m	
OR8	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
OR9	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
QC501	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC502	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC503	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC504	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC505	2401-002180	C-AL;2.2UF,20%,50V,GP,TP,5X11,5MM	
QC506	2202-000820	C-CERAMIC,MLC-AXIAL;5.6NF,20%,16V,Y5R,TP	
QC509	2201-000783	C-CERAMIC,DISC ; 100nF, +80%-20%,50V,Y5	
QC559	2201-000783	C-CERAMIC,DISC ; 100nF, +80%-20%,50V,Y5	
QC510	2201-000783	C-CERAMIC,DISC ; 100nF, +80%-20%,50V,Y5	
QC560	2201-000783	C-CERAMIC,DISC ; 100nF, +80%-20%,50V,Y5	
QC511	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
QC513	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
QC514	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
QC515	2401-001912	C-AL;1uF,20%,50V,GP,5x7mm,2mm,8K	
QC551	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC552	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC553	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC554	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
QC555	2401-002180	C-AL;2.2UF,20%,50V,GP,TP,5X11,5MM	
QC556	2202-000820	C-CERAMIC,MLC-AXIAL;5.6NF,20%,16V,Y5R,TP	
QQ501	0504-001003	TR-DIGITAL;KSR2003,PNP,300MW,22K-22K,TO-	
QQ502	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
QQ503	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
QQ553	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
QR503	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
QR504	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
QR505	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
QR506	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
QR507	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
QR508	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
QR509	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
QR553	2001-000802	R-CARBON;5.6KOHM,5%,1/8W,AA,TP,1.8X3.2M	
QR557	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
QR558	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
QR559	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RC701	2201-000381	C-CERAMIC,DISC;22nF,20%,50V,Y5V,8.0X4.0m	
RC701	2401-000438	C-AL;10UF,20%,25V,GP,-,5X11,2MM	
RC702	2201-000381	C-CERAMIC,DISC;22nF,20%,50V,Y5V,8.0X4.0m	
RC703	2201-000381	C-CERAMIC,DISC;22nF,20%,50V,Y5V,8.0X4.0m	
RC704	2201-000381	C-CERAMIC,DISC;22nF,20%,50V,Y5V,8.0X4.0m	
RC707	2401-000303	C-AL;100uF,20%,25V,GP,TP,6.3x11,2.5	
RC708	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
RC709	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
RC711	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
RC712	2401-001022	C-AL;3.3UF,20%,50V,GP,-,5X11,2MM	
RD705	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
RD706	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
RQ701	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
RQ702	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
RR701	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
RR750	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
RR702	2001-001050	R-CARBON(S);1.5Kohm,5%,1/2W,AA,TP,2.4x6.	
RR703	2008-000157	R-FUSIBLE;4.7ohm,5%,1/4W,AA,TP,2.6x6.7mm	
RR704	2001-001138	R-CARBON(S);390ohm,5%,1/2W,AA,TP,2.4x6.4	
RR705	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RR706	2008-000157	R-FUSIBLE;4.7ohm,5%,1/4W,AA,TP,2.6x6.7mm	
RR707	2001-000890	R-CARBON;6.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RR708	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RR709	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
RR710	2001-000302	R-CARBON;10ohm,5%,1/8W,AA,TP,1.8x3.2mm	
RZD701	0403-000379	DIODE-ZENER;UZP12B,12V,11.4-12.6V,1W,DO-	
RZD702	0403-000357	DIODE-ZENER;UZ5.6BM,5.6V,5.4-5.8V,500mW,	
UC901	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
UC902	2401-001895	C-AL;100uF,20%,16V,GP,6.3x11mm,2.5m	
UC905	2401-001912	C-AL;1uF,20%,50V,GP,5x11mm,2mm,BK	
UD901	0402-000151	DIODE-RECTIFIER;1N5392,100V,1.5A,DO-15	
UQ902	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
UQ903	0501-000010	TR-SMALL SIGNAL;KSC1008,NPN,80V,60V,700m	
UQ904	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
UQ954	0501-000398	TR-SMALL SIGNAL;KSC945,NPN,250mW,TO-92,T	
UR902	2001-001138	R-CARBON(S);390ohm,5%,1/2W,AA,TP,2.4x6.4	
UR903	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR904	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR905	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR906	2001-000563	R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR907	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR908	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR956	2001-000563	R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR957	2001-000258	R-CARBON;1.8Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR958	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UZD901	0403-000399	DIODE-ZENER;UZP9.1B,9.1V,8.5-9.6V,1W,DO-	
XR06	2001-000857	R-CARBON;560ohm,5%,1/8W,AA,TP,1.8x3.2mm	
ZC101	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
ZC151	2202-000781	C-CERAMIC,MLC-AXIAL:100pF,10%,50V,Y5P,TP	
ZR101	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
ZR102	2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	
ZR151	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
ZR152	2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	

Location no.	Code no.	Description & Specifiation	Remarks
		ASSY-PCB SUB;MM19,VDE	
CAP1	AH73-10007A	RUBBER-CAP;SILICON,-,RCD-1650,GRN	
CAP2	AH73-10007A	RUBBER-CAP;SILICON,-,RCD-1650,GRN	
L-FTR	AH67-40034A	FILTER-LCD;-,PC,T0.5,-,-,-,-,-,MM17	
LAMP1	4713-000158	LAMP-NEON;9V,75mA,0.7W,TRP,3x5.3mm,-,	
LAMP2	4713-000158	LAMP-NEON;9V,75mA,0.7W,TRP,3x5.3mm,-,	
RCON1	3711-000898	CONNECTOR-HEADER;BOX,3P,1R,2.5mm,ANGLE,S	
RF701(Option)	3601-000275	FUSE-FERRULE;250V,400mA,TIME LAG,GLASS	
RF702(Option)	3601-000268	FUSE-FERRULE;250V,315mA,TIME LAG,GLASS,5	
RJ1	3711-000190	CONNECTOR-HEADER;1WALL,2P,1R,7.92MM,STRA	
RT701	AH26-80143D	TRANS-POWER;EI60X30,115/230V,60/50Hz,MM1	
UC8	2409-000123	C-EDL;47000uF,4uA,5.5V,-,-,5mm,BK	
UCON1	3710-000130	CONNECTOR-SOCKET;11P,1R,2mm,STRAIGHT,SN	
UCON2	3710-000130	CONNECTOR-SOCKET;11P,1R,2mm,STRAIGHT,SN	
UCON4	3708-001265	CONNECTOR-FPC/FC/PIC;12P,1.25mm,ANGLE-F,	
UCON5	3711-000814	CONNECTOR-HEADER;BOX,2P,1R,2.5mm,ANGLE,S	
UCW1	AH39-30011A	CABLE-IF;-,5264/35022-02,300MM,1533#28	
UE1	AH59-60001J	MODULE-REMOCON;GP1U271R,38KHz,-,MESH	
UIC1	AH09-10064H	IC-MCU;LC72362N-9487,80P,QFP,MASK,-	
UIC2	1003-001212	IC-LCD DRIVER;LC75833E,QFP,48P,17.2X17.2	
ULCD1	AH07-10035G	LCD-PANNEL;-,LE0731A,MM18,-	
ULCD1	AH61-22004A	HOLDER-LCD;-,ABS94,HB,BLK,-,MM17	
ULED1	0601-000246	LED;ROUND,RED,3.1mm,700nm	
ULED1	AH61-20393A	HOLDER-LED,POWER;-,ABS,94HB,BLK,-,MM16	
UX1	2801-001398	CRYSTAL-UNIT;4.5MHz,50ppm,28-AAM,12pF,10	
WIRE	3809-001097	CABLE-FLAT;30V,80C,300mm,12P,1.25mm,UL28	
RF702	3602-000147	FUSE-CLIP;250V,7.5A,30mohm	
UC1	2201-000273	C-CERAMIC,DISC;18pF,5%,50V,CH,TP,5x3mm,5	
UC10	2401-000912	C-AL;22UF,20%,16V,GP,-,5X5,5	
UC11	2202-000854	C-CERAMIC,MLC-AXIAL;47NF,30%,50V,Y5R,TP,	
UC12	2202-000854	C-CERAMIC,MLC-AXIAL;47NF,30%,50V,Y5R,TP,	
UC2	2201-000273	C-CERAMIC,DISC;18pF,5%,50V,CH,TP,5x3mm,5	
UC3	2401-000778	C-AL;220uF,20%,10V,GP,-,6.3x11,2.5m	
UC4	2401-001968	C-AL;470NF,20%,50V,GP,TP,5X11MM,5	
UC15	2401-001912	C-AL ; 1uF ,20%,50V,GP,5X11mm,2mm,BK	
UC5	2201-000300	C-CERAMIC,DISC;1nF,20%,50V,Y5T,TP,5x3,5	
UC6	2201-000565	C-CERAMIC,DISC;47nF,20%,50V,Y5V,12.5X4.0	
UC7	2202-000854	C-CERAMIC,MLC-AXIAL;47NF,30%,50V,Y5R,TP,	
UC9	2202-000796	C-CERAMIC,MLC-AXIAL;UP050B102KB 1NF,10%,	
UD11	0402-000127	DIODE-RECTIFIER;1N4002,100V,1A,DO-41	
UD12	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD13	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD14	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD15	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD16	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD17	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD7	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
UD8	0401-000101	DIODE-SWITCHING;1N4148,100V,200mA,500mW,	
ULED2	0601-000185	LED;ROUND,ORG,3.1mm,610nm	
UQ1	0501-000303	TR-SMALL SIGNAL;KSA733-Y,PNP,250mW,TO-92	
UQ5	0504-000122	TR-DIGITAL;KSR1009Y,NPN,300mW,4.7K,TO-92	
UR11	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR12	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR13	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR14	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR16	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR17	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR18	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR19	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR21	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR22	2001-000411	R-CARBON;18Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR23	2001-000331	R-CARBON;12Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR24	2001-000563	R-CARBON;27Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR26	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR28	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR29	2001-000522	R-CARBON;22Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR30	2001-000411	R-CARBON;18Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR31	2001-000977	R-CARBON;8.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR32	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR33	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR34	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR35	2001-000855	R-CARBON;560ohm,5%,1/4W,AA,TP,2.4x6.4mm	
UR36	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR37	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR38	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR39	2001-000281	R-CARBON;100ohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR41	2001-000613	R-CARBON;3.9Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR44	2001-000591	R-CARBON;3.3Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR45	2001-000273	R-CARBON;100Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR46	2001-000515	R-CARBON;220ohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR48	2001-000290	R-CARBON;10Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR50	2001-000786	R-CARBON;47Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
UR6	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR7	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
UR8	2001-000449	R-CARBON;2.2Kohm,5%,1/8W,AA,TP,1.8x3.2m	
USW1	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW11	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW12	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW13	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW14	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW2	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW3	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW4	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW5	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW57	3811-000389	WIRE-NO SHEATH CU;SPCW,300V,52.4mm,1/0.5	
USW6	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW7	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW8	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
USW9	3404-000165	SWITCH-TACT;12V,50mA,160gf+-50gf,6x6mm,S	
	AH39-20560S	LEAD CONNECTOR-ASSY;-,5264,-,8P,250mm,25	
	AH39-50001H	LEAD-FASTEN;RING,1007#24,100MM,BLK	
		AH96-10001D ASSY-CD PACK;G3X8T,G3X8+TOP LOAD	
	3809-001034	CABLE-FLAT;30V,80C,170mm,22P,1.25mm,UL28	
		AH90-10719E ASSY-PCB;G3A8-3VI/C,NEW	
	3708-001131	CONNECTOR-FPC/FC/PIC;5P,1.25mm,STRAIGHT,	
	3711-003379	CONNECTOR-HEADER;NOWALL,3P,1R,2.5mm,STRA	
SCW1	3711-002579	CONNECTOR-HEADER;WALL,22P,1R,2.5MM,ANGLE	
SCW2	3708-000507	CONNECTOR-FPC/FC/PIC;12P,1.25MM,ANGLE,SN	
SCW3	AH39-20025T	LEAD-CONNECTOR,ASSY;-,51004-08,35023-08,	
SCW4	AH39-20025S	LEAD-CONNECTOR,ASSY;-,51004-08,35023-08,	
SC1	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
SC11	2401-000240	C-AL;100UF,20%,10V,GP,TP,6X11MM,5MM	
SC2	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
SC3	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
SC4	2202-000797	C-CERAMIC,MLC-AXIAL;10NF,30%,16V,Y5P,TP,	
SC5	2201-000163	C-CERAMIC,DISC;10nF,+80-20%,50V,Y5V,TP,6	
SC6	2201-000163	C-CERAMIC,DISC;10nF,+80-20%,50V,Y5V,TP,6	
SC7	2201-000163	C-CERAMIC,DISC;10nF,+80-20%,50V,Y5V,TP,6	
SC8	2401-000795	C-AL;220UF,20%,16V,GP,-,8X11.5,3.5M	
SC9	2401-000795	C-AL;220UF,20%,16V,GP,-,8X11.5,3.5M	
SIC1	1003-000298	IC-MOTOR DRIVER;LB1641,SIP,10P,-,-,-,ST,	
SIC2	1003-000298	IC-MOTOR DRIVER;LB1641,SIP,10P,-,-,-,ST,	
SIC3	AC14-12001G	IC;KA78L05,T,-	
SL1	2701-000179	INDUCTOR-AXIAL;33uH,10%,4.2x9.8mm	
SR1	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
SR2	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
SR3	2001-000734	R-CARBON;4.7Kohm,5%,1/8W,AA,TP,1.8x3.2m	
SR4	2001-000028	R-CARBON(S);100ohm,5%,1/2W,AA,TP,2.4x6.4	
SR5	2001-000429	R-CARBON;1Kohm,5%,1/8W,AA,TP,1.8x3.2mm	
SZD1	0403-000352	DIODE-ZENER;UZ4.7BM,4.7V,4.4-5.0V,500mW,	
SZD2	0403-000361	DIODE-ZENER;UZ6.2BSB,6.2V,5.99-6.24V,500	

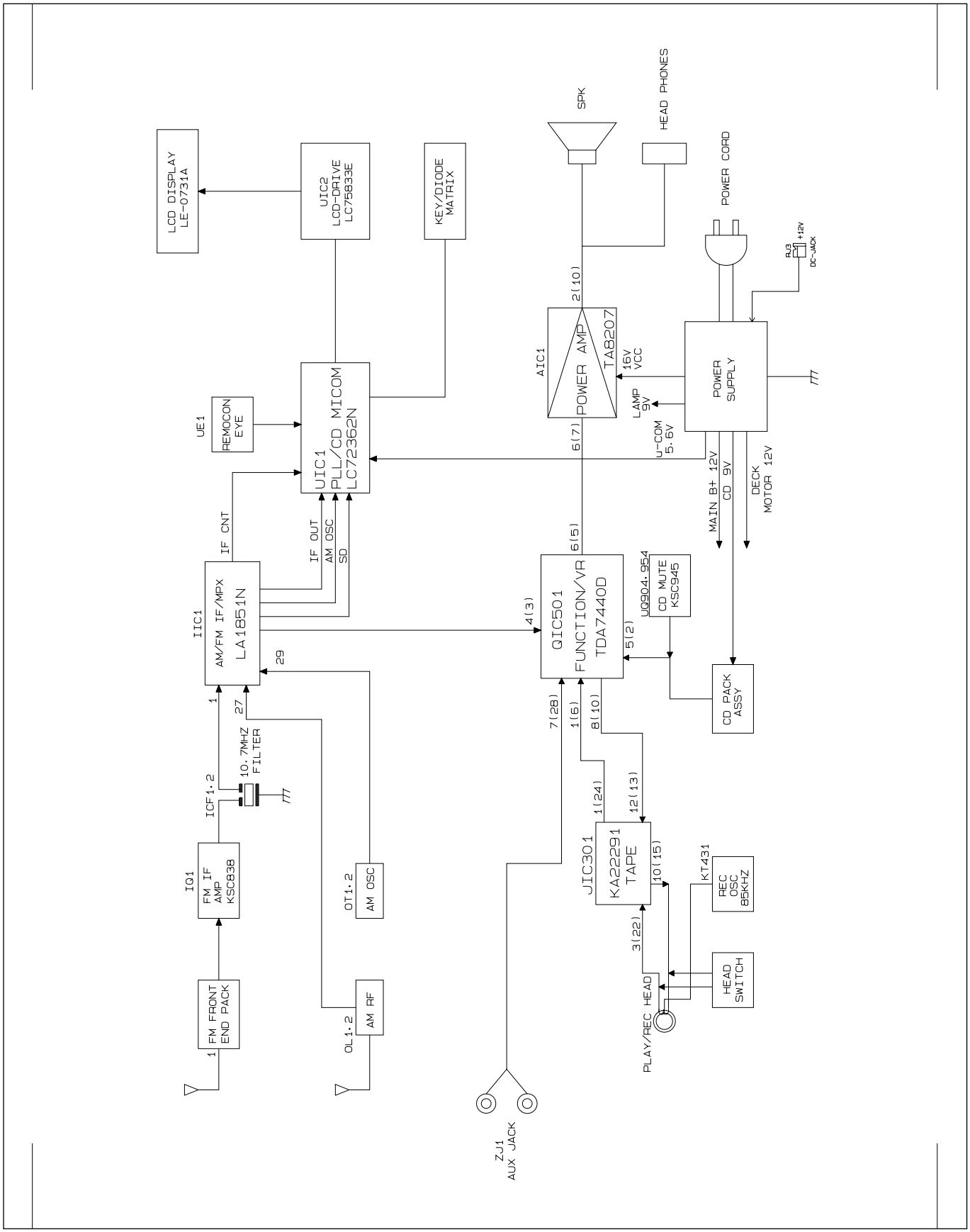
Location no.	Code no.	Description & Specifiation	Remarks
	AH90-10737E	**ASSY-CD MAIN PCB;G3X8, NON ADJUST**	
	3409-000174	SWITCH-LEAF;16Vdc,500mA,10gf,SPST	
	3708-000177	CONNECTOR-FPC/FC/PIC;16P,1MM,ANGLE,SN	
	3708-000412	CONNECTOR-FPC/FC/PIC;12P,1.25MM,ANGLE,	
	3711-001136	CONNECTOR-HEADER;BOX,8P,1R,2mm,ANGLE,SN	
	3809-000202	CABLE-FLAT;30V,80C,82MM,16P,1MM,UL2896	
	AH62-30047A	HEAT SINK;ETHD,-,T0.5,-,-,-,MAX-555,-	
NXF100	2802-000211	RESONATOR-CERAMIC;16.93MHz,0.5%,TP,10.0x	
IC9223	1204-001286	IC-ASP;KB9223,QFP,80P,-,PLASTIC,6V,20	
IC9258	1003-000179	IC-MOTOR DRIVER;KA9258D,SOP,28P,-,SINGLE	
IC9286	0904-001159	IC-DSP;9286,8BIT,QFP,80P,-,1MHz,TR,CM	
NC100	2203-000892	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,2012	
NC101	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012,	
NC102	2203-001551	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,2012,2m	
NC103	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC104	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC106	2203-000892	C-CERAMIC,CHIP;4.7nF,10%,50V,X7R,TP,2012	
NC107	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC108	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC110	2203-000495	C-CERAMIC,CHIP;2.2nF,10%,50V,X7R,TP,2012	
NC111	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012,	
NC112	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC113	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC115	2203-001137	C-CERAMIC,CHIP;68NF,+80-20%,50V,Y5V,TP,2	
NC116	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC118	2203-000787	C-CERAMIC,CHIP;330pF,5%,50V,NPO,TP,2012,	
NC119	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC120	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC121	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC124	2203-000919	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	
NC125	2203-000802	C-CERAMIC,CHIP;33nF,10%,50V,X7R,TP,2012,	
NC190	2203-001256	C-CERAMIC,CHIP;8pF,0.25pF,50V,NPO,TP,201	
NC200	2203-000979	C-CERAMIC,CHIP;47nF,10%,50V,X7R,TP,2012,	
NC2000	2203-001026	C-CERAMIC,CHIP;4PF,0.25PF,50V,SL,TP,2012	
NC201	2203-001551	C-CERAMIC,CHIP;1.5nF,10%,50V,X7R,2012,2m	
NC202	2203-001619	C-CERAMIC,CHIP;27pF,5%,50V,NPO,TP,2012,2	
NC203	2203-001619	C-CERAMIC,CHIP;27pF,5%,50V,NPO,TP,2012,2	
NC204	2203-000919	C-CERAMIC,CHIP;470nF,+80-20%,16V,Y5V,TP,	
NC205	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC300	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC301	2203-000477	C-CERAMIC,CHIP;1uF,+80-20%,16V,Y5V,TP,20	
NC400	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC500	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC502	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC50L	2404-000367	C-TA,CHIP;4.7UF,20%,6.3V,-,TP,3216,-	
NC50R	2404-000367	C-TA,CHIP;4.7UF,20%,6.3V,-,TP,3216,-	
NC52L	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC52R	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC53L	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC53R	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC54L	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
NC54R	2203-000239	C-CERAMIC,CHIP;100pF,5%,50V,NPO,TP,2012,	
NC602	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC603	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC800	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC804	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC901	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC902	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
NC903	2203-001537	C-CERAMIC,CHIP;1nF,10%,50V,X7R,TP,2012,-	
NC904	2203-000199	C-CERAMIC,CHIP;100nF,+80-20%,50V,Z5U,TP,	
NC905	2203-000260	C-CERAMIC,CHIP;10nF,10%,50V,X7R,TP,2012,	
ND200	0407-000101	DIODE-ARRAY;DA204K,20V,100mA,C2-3,SOT-2	
ND201	0407-000101	DIODE-ARRAY;DA204K,20V,100mA,C2-3,SOT-2	
NJR102	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR103	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR104	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR105	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR105	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR106	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	

Location no.	Code no.	Description & Specifiation	Remarks
NJR107	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR108	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR110	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR111	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR112	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR113	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR114	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR115	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR116	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR117	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR118	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR127	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR129	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR131	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR132	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR133	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR134	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR135	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR136	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR137	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR138	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR139	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR140	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR141	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR142	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR143	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR144	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR145	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR146	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR147	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR148	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR149	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR150	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR151	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR152	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR153	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR154	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR155	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR156	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR300	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR301	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR302	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR303	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR304	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR305	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NJR306	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR307	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJR308	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NJW320	2007-000029	R-CHIP;0ohm,5%,1/10W,DA,TP,2012	
NL100	2007-000033	R-CHIP;0ohm,5%,1/8W,DA,TP,3216	
NL300	3301-000325	CORE-FERRITE BEAD;AB,3.2X2.5X1.3MM,-,-	
NL301	2703-000001	INDUCTOR-SMD;10uH,10%,2.5x3.2x2mm	
NL302	3301-000325	CORE-FERRITE BEAD;AB,3.2X2.5X1.3MM,-,-	
NL303	2703-000001	INDUCTOR-SMD;10uH,10%,2.5x3.2x2mm	
NQ1502	0501-000314	TR-SMALL SIGNAL;KSA812,PNP,150MW,SOT-23,	
NR100	2007-000355	R-CHIP;12Kohm,5%,1/10W,DA,TP,2012	
NR101	2007-000593	R-CHIP;22ohm,5%,1/10W,DA,TP,2012	
NR102	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR103	2007-000395	R-CHIP;150Kohm,5%,1/10W,DA,TP,2012	
NR104	2007-000338	R-CHIP;120Kohm,5%,1/10W,DA,TP,2012	
NR105	2007-000830	R-CHIP;39Kohm,5%,1/10W,DA,TP,2012	
NR106	2007-000338	R-CHIP;120Kohm,5%,1/10W,DA,TP,2012	
NR107	2007-000338	R-CHIP;120Kohm,5%,1/10W,DA,TP,2012	
NR108	2007-000941	R-CHIP;47Kohm,5%,1/10W,DA,TP,2012	
NR109	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR111	2007-000941	R-CHIP;47Kohm,5%,1/10W,DA,TP,2012	
NR112	2007-001039	R-CHIP;56Kohm,5%,1/10W,DA,TP,2012	
NR113	2007-001177	R-CHIP;8.2Kohm,5%,1/10W,DA,TP,2012	
NR114	2007-000477	R-CHIP;1Mohm,5%,1/10W,DA,TP,2012	
NR115	2007-000444	R-CHIP;180Kohm,5%,1/10W,DA,TP,2012	

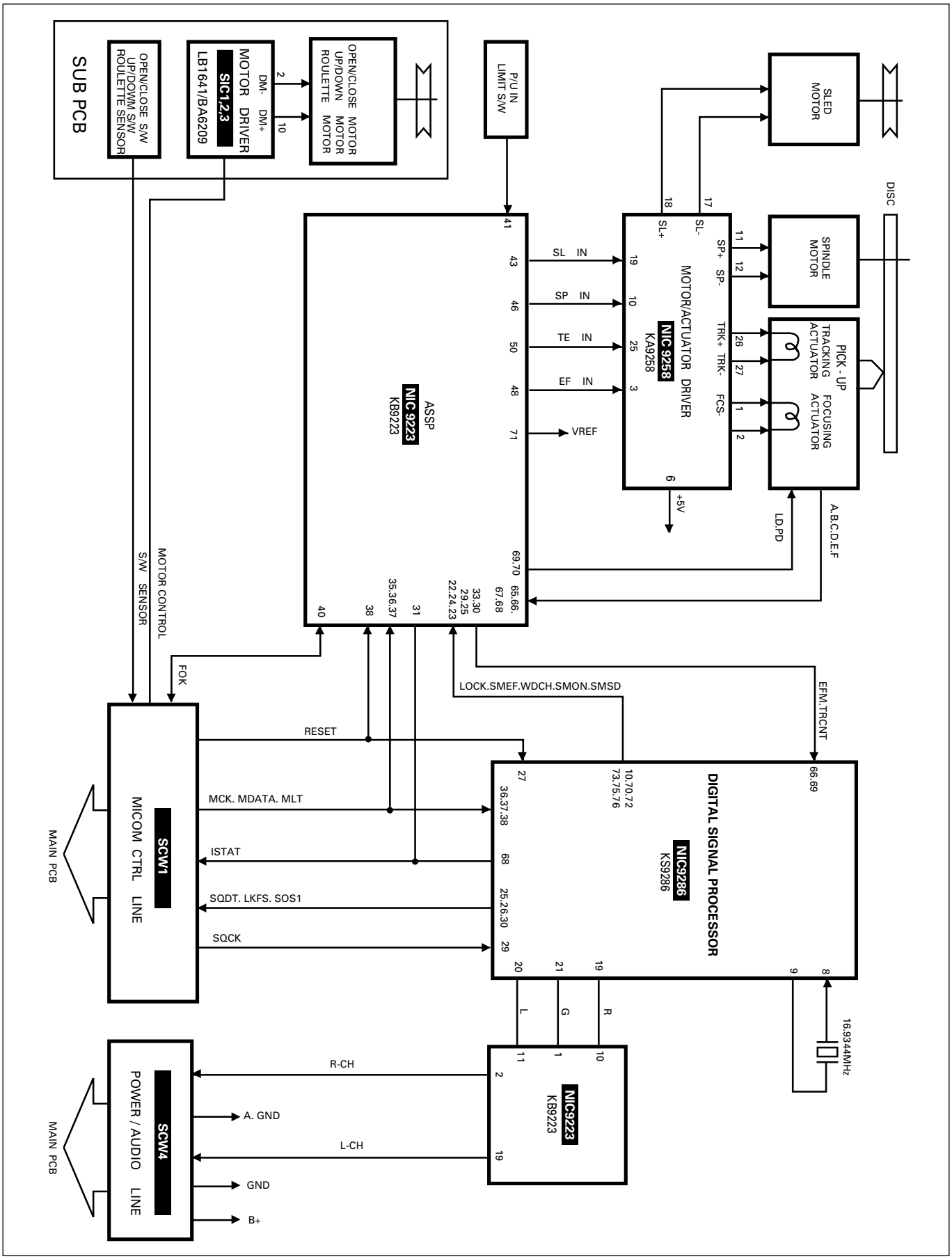
Location no.	Code no.	Description & Specifiation	Remarks
NR116	2007-001195	R-CHIP;820Kohm,5%,1/10W,DA,TP,2012	
NR117	2007-000898	R-CHIP;430Kohm,5%,1/10W,DA,TP,2012	
NR118	2007-001213	R-CHIP;82ohm,1%,1/10W,DA,TP,2012	
NR119	2007-000395	R-CHIP;150Kohm,5%,1/10W,DA,TP,2012	
NR120	2007-000355	R-CHIP;12Kohm,5%,1/10W,DA,TP,2012	
NR121	2007-000355	R-CHIP;12Kohm,5%,1/10W,DA,TP,2012	
NR200	2007-000653	R-CHIP;27Kohm,5%,1/10W,DA,TP,2012	
NR201	2007-000686	R-CHIP;3.3Kohm,5%,1/10W,DA,TP,2012	
NR202	2007-000686	R-CHIP;3.3Kohm,5%,1/10W,DA,TP,2012	
NR203	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR204	2007-000355	R-CHIP;12Kohm,5%,1/10W,DA,TP,2012	
NR300	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR400	2007-000409	R-CHIP;15Kohm,5%,1/10W,DA,TP,2012	
NR401	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR500	2007-000395	R-CHIP;150Kohm,5%,1/10W,DA,TP,2012	
NR50L	2007-000586	R-CHIP;22Kohm,5%,1/10W,DA,TP,2012	
NR50R	2007-000586	R-CHIP;22Kohm,5%,1/10W,DA,TP,2012	
NR52L	2007-000774	R-CHIP;33Kohm,5%,1/10W,DA,TP,2012	
NR52R	2007-000774	R-CHIP;33Kohm,5%,1/10W,DA,TP,2012	
NR53L	2007-000872	R-CHIP;4.7Kohm,5%,1/10W,DA,TP,2012	
NR53R	2007-000872	R-CHIP;4.7Kohm,5%,1/10W,DA,TP,2012	
NR54L	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR54R	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR55L	2007-000872	R-CHIP;4.7Kohm,5%,1/10W,DA,TP,2012	
NR55R	2007-000872	R-CHIP;4.7Kohm,5%,1/10W,DA,TP,2012	
NR56L	2007-000290	R-CHIP;100ohm,5%,1/10W,DA,TP,2012	
NR56R	2007-000290	R-CHIP;100ohm,5%,1/10W,DA,TP,2012	
NR57L	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR57R	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR601	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR602	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012	
NR603	2007-000300	R-CHIP;10Kohm,5%,1/10W,DA,TP,2012	
NR604	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NR606	2007-000282	R-CHIP;100Kohm,5%,1/10W,DA,TP,2012	
NR804	2007-000468	R-CHIP;1Kohm,5%,1/10W,DA,TP,2012	
NC105	2401-000243	C-AL;100UF,20%,10V,GP,TP,6.3X5,2.5M	
NC114	2401-000419	C-AL;10UF,20%,16V,GP,-,4X7,5	
NC117	2301-000389	C-FILM,PEF;150nF,5%,50V,12.5x15x7.5,7mm,	
NC122	2401-001238	C-AL;4.7UF,20%,25V,GP,BK,3X5,1MM	
NC501	2401-000243	C-AL;100UF,20%,10V,GP,TP,6.3X5,2.5M	
NC55L	2401-001238	C-AL;4.7UF,20%,25V,GP,BK,3X5,1MM	
NC55R	2401-001238	C-AL;4.7UF,20%,25V,GP,BK,3X5,1MM	
NC700	2401-000868	C-AL;220UF,20%,4V,GP,TP,6.3X5,2.5MM	
NC701	2401-000868	C-AL;220UF,20%,4V,GP,TP,6.3X5,2.5MM	
NC702	2401-000243	C-AL;100UF,20%,10V,GP,TP,6.3X5,2.5M	
NC703	2401-001364	C-AL;470UF,20%,16V,GP,TP,10X12MM,5M	
NC704	2401-000778	C-AL;220uF,20%,10V,GP,-,6.3x11,2.5m	
NC902	2401-000243	C-AL;100UF,20%,10V,GP,TP,6.3X5,2.5M	
NC903	2401-001238	C-AL;4.7UF,20%,25V,GP,BK,3X5,1MM	
NIC05	AC14-12001G	IC;KA78L05,T,-	
NJW108	3301-000297	CORE-FERRITE BEAD;AA,3.6x1.2x5.7mm,1400,	
NQ1501	0501-000610	TR-SMALL SIGNAL;KSA928A-Y,PNP,1W,TO-92L,	
NR555	2008-000141	R-FUSIBLE;2.2ohm,5%,1/4W,AA,TP,2.6x6.7mm	
	AJ59-20003E	DECK-CDP;CMS-P30AM6,-,-,-,	
	CMSP30AM6	DECK CD;BASIC	

4.Block Diagrams

4-1 Main



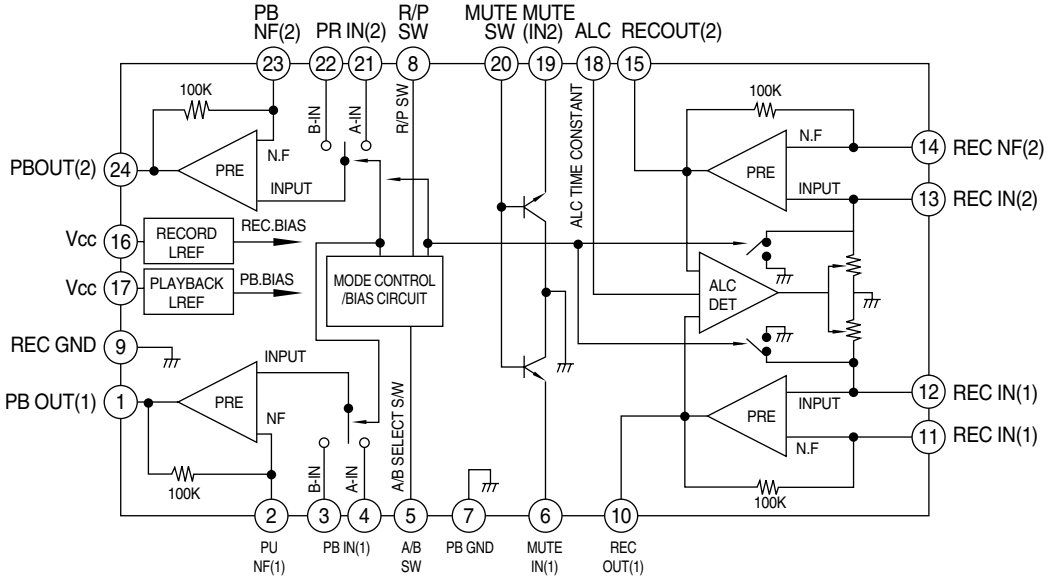
4-2 CD


SUB PCB
OPEN/CLOSE S/W
UP/DOWN S/W
ROULETTE SENSOR
MOTOR DRIVER
SIC1213
LB1641/BA6209
DM-
DM+
OPEN/CLOSE MOTOR
UP/DOWN MOTOR
ROULETTE MOTOR
P/U IN
LIMIT S/W
SLED
MOTOR
DISC
SPINDLE
MOTOR
PICK - UP
TRACKING
ACTUATOR
FOCUSING
ACTUATOR
MOTOR/ACTUATOR DRIVER
NIC 9258
KA9258
SL+
SL-
SP+
SP-
TRK+
TRK-
FCS-
+5V
ASSP
NIC 9223
KB9223
SL IN
SP IN
TE IN
EF IN
VREF
LD.PD
A.B.C.D.E.F
MOTOR CONTROL
S/W SENSOR
FOK
LOCK.SMEF.WDCH.SMON.SMSD
EFM.TRCNT
RESET
MCK. MDATA. MLT
ISTAT
SQDT. LKFS. SOS1
SQCK
MICOM CTRL LINE
SCW1
MAIN PCB
DIGITAL SIGNAL PROCESSOR
NIC9286
KS9286
16.9344MHz
L
G
R
NIC9223
KB9223
R-CH
A. GND
L-CH
GND
B+
POWER / AUDIO LINE
SCW4
MAIN PCB

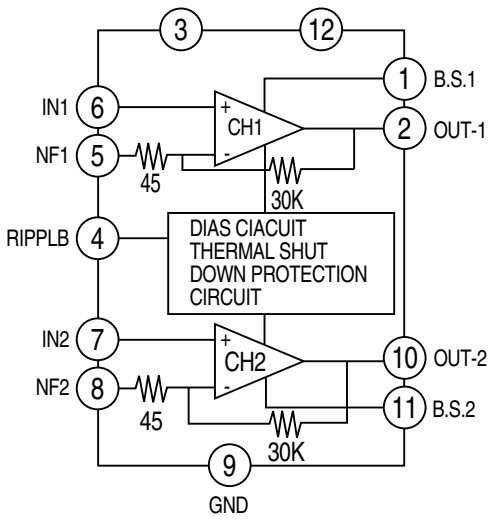
4-3 IC & TR Internal Diagrams

4-3-1 Main

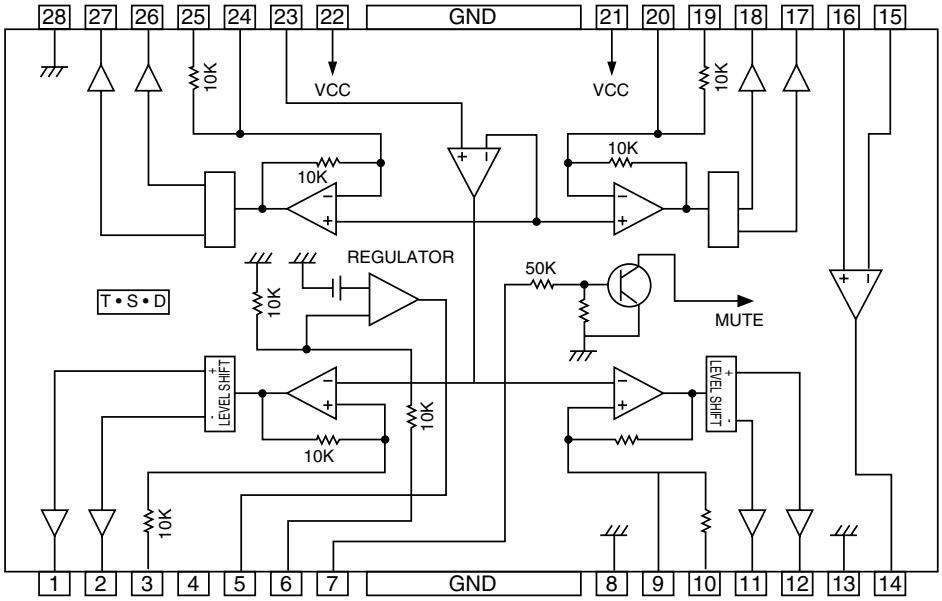
KA22291 : JIC301



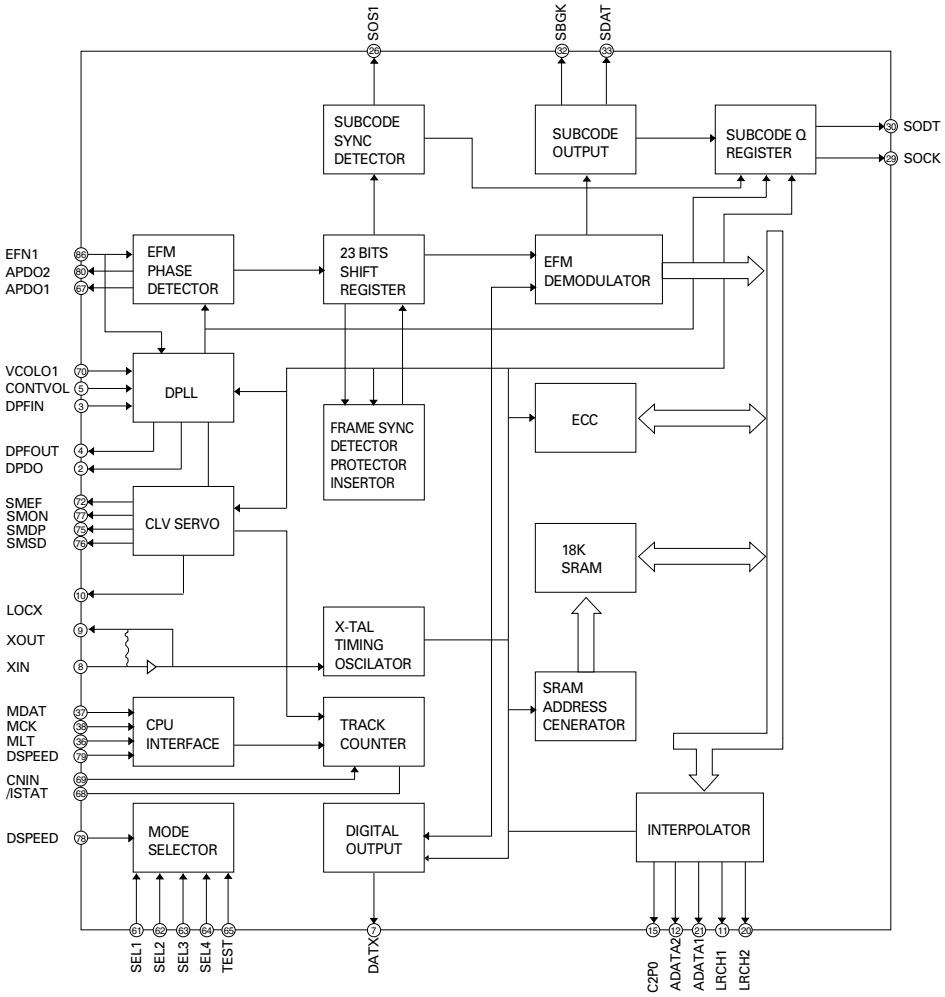
TA8207K : AIC601



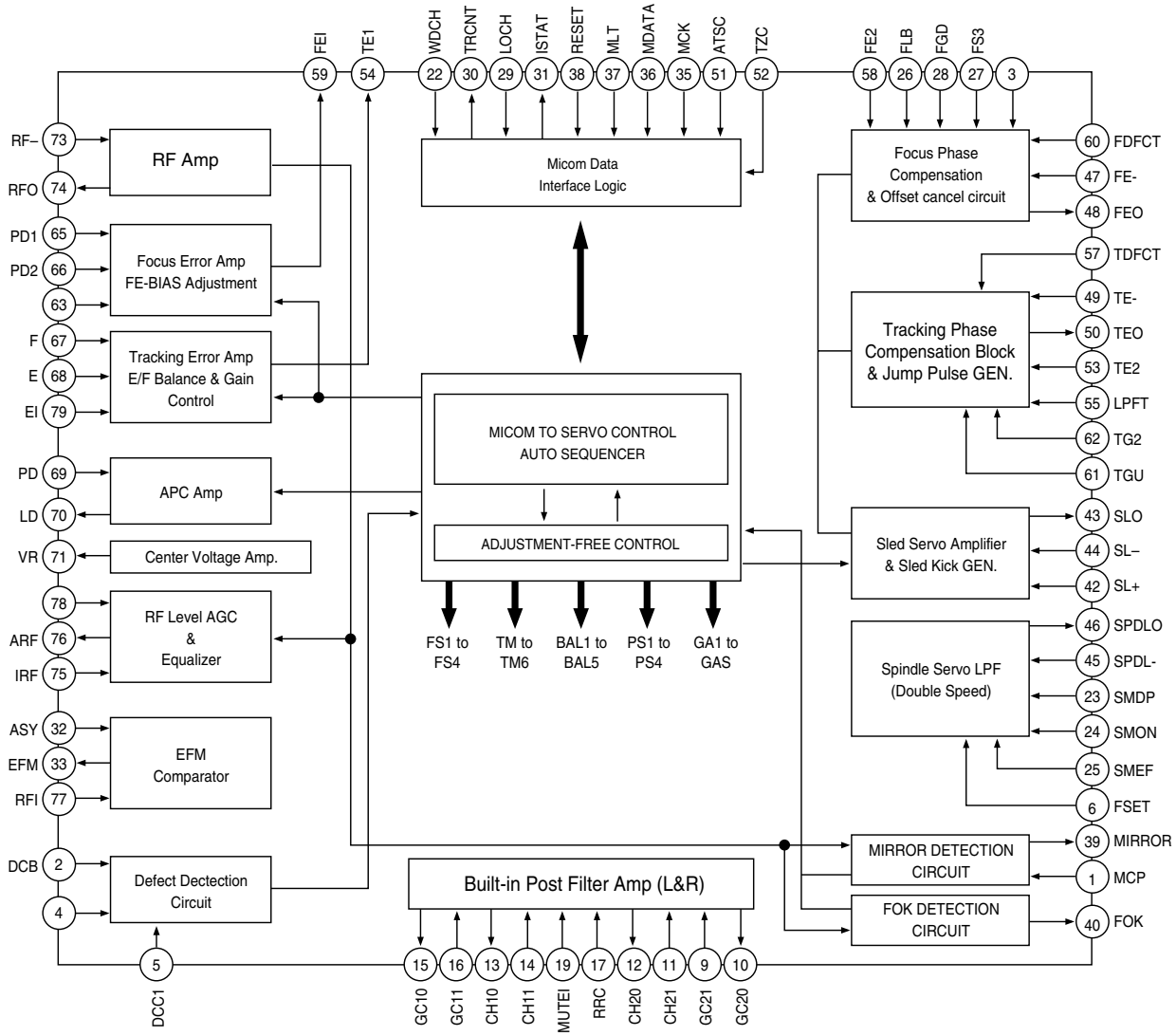
KA9258 : NIC9258



KS9286 : NIC9286



KB9223 : NIC9223



4-4 µ-COM (LC72362N-9487) : UIC1

No.	Name	I/O	Function	Descriptions
1	Xin	I	OSC 4.5MHz	OSC for SYSTEM CLOCK
2	TEST2	I	-	
3	PG3SI/O	I	CLOSE SW	DOOR CLOSE SENSE PORT
4	PG2/SO0	I	LCD CONTROL DATA	LCD CONTROL SIGNAL
5	PG1/SCK	I	LCD CONTROL CLK	LCD CONTROL SIGNAL
6	PG0	I	LCD CONTROL CE	LCD CONTROL SIGNAL
7	PF3/SI1	I	OPEN SW	DOOR OPEN SENSE PORT
8	PF2/SO1	I	VOLUME CONTROL DATA	VOLUME CONTROL SIGNAL
9	PF1/SCK1	I	VOLUME CONTROL CLK	VOLUME CONTROL SIGNAL
10	PFO	I	VOLUME CONTROL CE	VOLUME CONTROL SIGNAL
11	PE3/S12	O	SENSE	SERVO FUNCTION SIGNAL
12	PE2/SO2	I	SQDT	SUBCODE “Q” CHANNEL DATA
13	PE1/SCK2	I	SQCK	CLOCK for “Q” DATA
14	PE0	O	F OK	FOCUS OF SIGNAL
15	PD3	O	MLT	LATCH for MAIN DATA
16	PD2	O	MDATA	MAIN DATA
17	PD1	O	MCK	MAIN CLOCK
18	PD0	O	CLOSE	DOOR CLOSE CONTROL PORT
19	PC3	O	OPEN	DOOR OPEN CONTROL PORT
20	PC2	O	MUTE	CD MUTE CONTROL PORT
21	PC1	O	RESET	IC(SSP IC) RESET PORT
22	PC0	O	-	
23	PB3	O	MOTOR CONTROL	
24	PB2	O	FM MODE	MODE KEY ON/OFF MODE:”H”,”L” CONVERSION
25	PB1	O	IF CNT	When SD SIGNAL is L MODE : ACTION
26	PB0	O	HIGH SPEED MOTOR CTL	HIGH SPEED
27	PA3	I	TAPE PLAY	
28	PA2	I	TAPE REC	CD SYNCHRO RECORDING CONTROL
29	PA1	I	TAPE REC	INDICATE FRAME SYNCHRONIZATION STATUS
30	PO0	I	LKFS SOSI	SUBCODE SYNCHRONIZATION SIGNAL
31	Vdd	-		
32	PQ0	I/O	CD TEST	CD PROGRAM CHECK
33	PP3	O		
34	PP2	O		
35	PP1	O		
36	PP0	O		
37	PO3	O		
38	PO2	O		
39	PO1	O		
40	PO0	O		

No.	Name	I/O	Function	Descriptions
41	PN3	O	POWER CONTROL	PORT for TUNER FUNCTION
42	PN2	O	AUDIO MUTE	MUTE for AUDIO
43	PN1	O	TUNER MUTE	MUTE for TUNER FUNCTION
44	PN0/BEEP	O		
45	PM3	I/O	LD ON	LASER DIODE ON SIGNAL
46	PM2	I/O		
47	PM1	I	OPTION INPUT	PORT for OPTION DATA
48	PM0	I	OPTION INPUT	PORT for OPTION DATA
49	PL3	I	OPTION INPUT	PORT for OPTION DATA
50	PL2	O	OPTION INPUT	PORT for OPTION DATA
51	PL1	O	OPTION INPUT	PORT for OPTION DATA
52	PL0	O	OPTION INPUT	PORT for OPTION DATA
53	PK3	I/O	TUNING IND (SD)	TUNING INDICATER ON/OFF
54	PK2	I/O	STEREO IND	STEREO INDICATER ON/OFF
55	PK1/INT1	I/O		
56	PK0/INT0	I	REMOCON	REMOCON SIGNAL INPUT
57	PJ3	O	S.BASS	LED CONTROL PORT(S.BASS)
58	PJ2	O	SW	
59	PJ1	O	MW	
60	PJ0	O	FM	
61	PI1/AD15	I		
62	PI0/AD14	I	KEY DATA	A/D INPUT (8 KEY)
63	PH3/ADI3	I	KEY DATA	A/D INPUT (8 KEY)
64	PH2/ADI2	I	KEY DATA	A/D INPUT (8 KEY)
65	PH1/ADI1	I	KEY DATA	A/D INPUT (8 KEY)
66	PH0/ADI0	I	KEY DATA	A/D INPUT (8 KEY)
67	HOLD	I	POWER OFF SENSE	
68	SNS	I	VOLTAGE SENSE	
69	LCTR	I		
70	HCTR	I	FM AM IF INPUT	FM & AM IF FREQUENCY INPUT PORT
71	EO3	O		
72	SUBPD	O		
73	Vdd	-		
74	AMIN	I	AM INPUT	AM OSC INPUT
75	FMIN	I	FM INPUT	FM OSC INPUT
76	Vss	-		
77	EO1	O	FM TUNING VOLTAGE	FM TUNING VOLTAGE
78	EO2	O	FM TUNING VOLTAGE	AM TUNING VOLTAGE
70	TEST1	-		
80	Xout	O	OSC for SYSTEM CLOCK	OSC for SYSTEM CLOCK

4-5 RF AMP & Servo Processor(KB9223) : NIC9223

No.	Port	Description
1	MCP	Capacitor connection pin for mirror hold
2	DCB	Capacitor connection pin for defect Bottom hold
3	FRSH	Capacitor connection pin for time constant to generate focus search waveform
4	DCC2	The input pin through capacitor of defect bottom hold output
5	DCC1	The output pin of defect bottom hold
6	FSET	The peak frequency setting pin for focus, tracking servo and cut of frequency of CLV LPF
7	VDDA	Analog VCC for servo part
8	VCCP	Vcc for post filter
9	GC21	Amplifier negative input pin for gain and low pass filtering of DAC output CH2
10	GC20	Amplifier output pin for gain and low pass filtering of DAC output CH2
11	CH2I	The input pin for post filter channel2
12	GC2O	The output pin for post filter channel2
13	CH1O	The output pin for post filter channel1
14	CH1I	The input pin for post filter channel1
15	GC1O	Amplifier output pin for gain and low pass filtering of DAC output CH1
16	GC1I	Amplifier negative input pin for gain and low pass filtering of DAC output CH1
17	RRC	The pin for noise reduction of post filter bias
18	VSSP	VSS for post filter
19	MUTEI	The input pin for post filter muting control
20	ISET	The input pin for current setting of focus search, track jump and sled kick voltage
21	VREG	The output pin of regulator
22	WDCK	The clock input pin for auto sequence
23	SMDP	The input pin of CLV control output pin SMDP of DSP
24	SMON	The input pin for spindle servo ON through SMON of DSP
25	SMEF	The input pin of provide for an external LPF time constant
26	FLB	Capacitor connection pin to perform rising low bandwidth of focus loop
27	FS3	The pin for high frequency gain change of focus loop with internal FS3 pin switch
28	FGD	Reducing high frequency gain with capacitor between FS3 pin
29	LOCK	Sled runaway prevention pin
30	TRCNT	Track count output pin
31	ISTAT	Internal status output pin
32	ASY	The input pin for asymmetry control
33	EFM	EFM comparator output pin
34	VSSA	Analog VSS for servo part
35	MCK	Micom clock input pin
36	MDATA	Micom data input pin
37	MLT	Micom data latch input pin
38	RESET	Reset input pin
39	MIRROR	The mirror output for test
40	FOK	The output pin of focus OK comparator

No.	Port	Description
41	SSTOP	The pin for detection whether pick_up position is innermost or not
42	SL+	The noninverting input pin of sled servo amplifier
43	SLO	The output pin of sled servo amplifier
44	SL-	The inverting input pin of sled servo amplifier
45	SPDL-	The noninverting input pin of spindle servo amplifier
46	SPDLO	The output pin of spindle servo amplifier
47	FE-	The inverting input pin of focus servo amplifier
48	FEO	The output pin of focus servo amplifier
49	TE-	The inverting input pin of tracking servo amplifier
50	TEO	The output pin of tracking servo amplifier
51	ATSC	The input pin for Anti-shock detection
52	TZC	The comaparator input pin for tracking zero crossing detection
53	TE2	Tracking servo input pin
54	TE1	Tracking error amplifier output pin
55	LPFT	The input pin of tracking error low pass filtering signal
56	DVDD	The power supply pin for logic circuit
57	TDFCT	The capacitor connectiong pin for tracking defect compensation
58	FE2	Focus servo input pin
59	FE1	Focus error amplifier output pin
60	FDFCT	The capacitor connection pin for focus defect compensation
61	TGU	The capacitor connection pin for high frequency tracking gain switch
62	TG2	The pin for high frequency gain change of tracking servo loop with internal TG2 switch
63	FEBIAS	Focus error bias voltage control pin
64	DVEE	The DVEE pin for logic circuit
65	PD1	The negative input pin of RF I/V amplifier1(A+C signal)
66	PD2	The negative input pin of RF I/V amplifier2(B+D signal)
67	F	The negative input pin of F I/V amplifier(F signal)
68	E	The negative input pin of E I/V amplifier(E signal)
69	PD	The input pin for APC
70	LD	The output pin for APC
71	VR	The output pin of (AVEE+AVCC)/2 voltage
72	VCC	VCC for RF part
73	RF-	RF summing amplifier inverting input pin
74	RFO	RF summing amplifier output pin
75	IRF	The input pin for AGC
76	ARF	The output pin for AGC
77	RFI	The input pin for EFM comparating
78	CAGC	The capacitor connection pin for AGC
79	EI	Feedback input pin of E I/V amplifier for EF Balance control
80	GND	GND for RF part

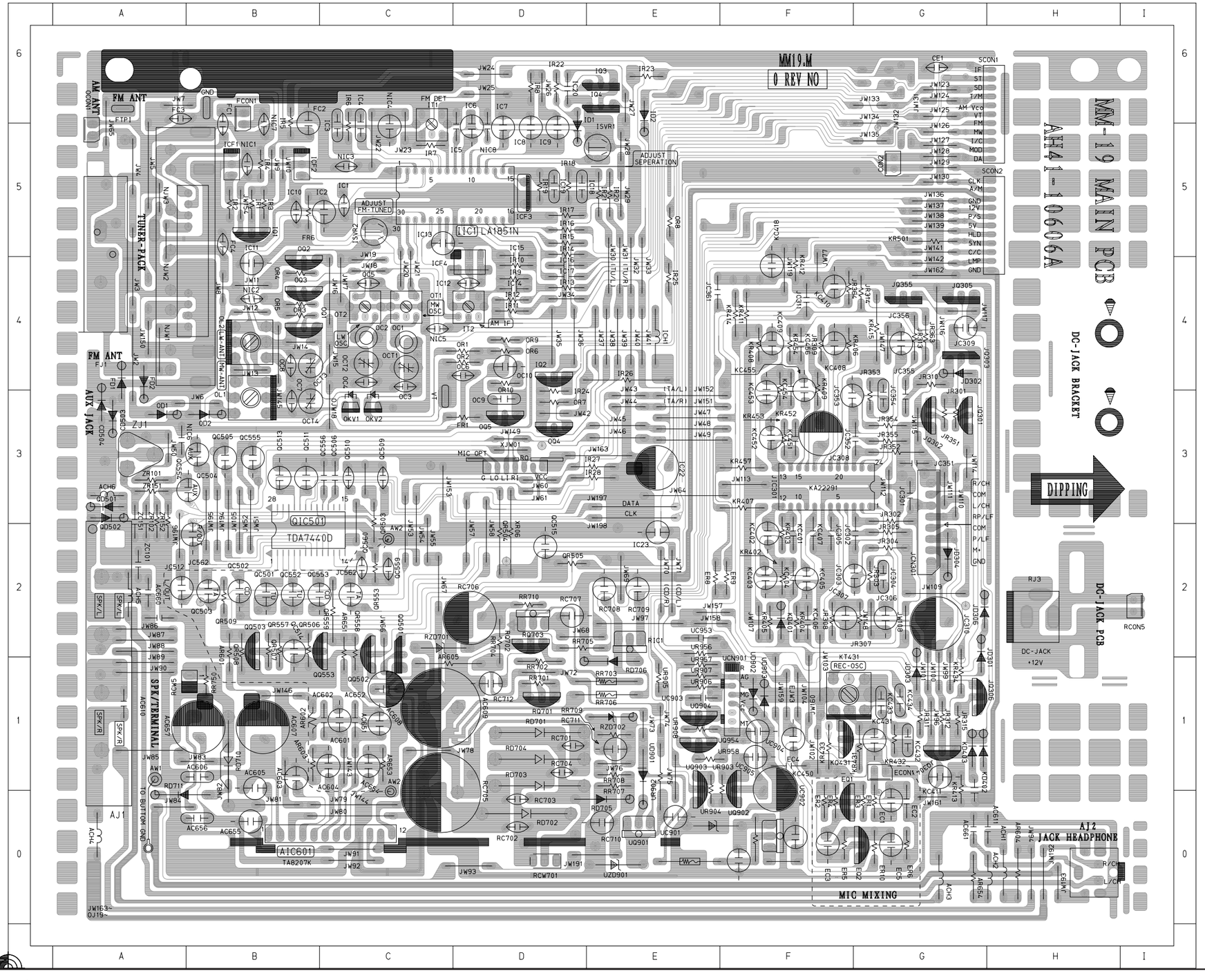
4-6 Digital Signal Processor(KS9286) : NIC9286

No.	Port	Port	Description
1	AVDD1	-	Analog VCC1
2	DPDO	O	Charge pump output for Digital PLL
3	DPFIN	I	Filter input for Digital PLL
4	DPFOUT	O	Filter output for Digital PLL
5	CNTVOL	I	VCO control voltage for Digital PLL
6	AVSS1	-	Analog Ground1
7	DATX	O	Digital Audio output data
8	XIN	I	X'tal oscillator input
9	XOUT	O	X'tal oscillator output
10	WDCHO	O	Word clock output of 48 bit/Slot (88.2KHz)
11	LRCHO	O	Channel clock output of 48 bit/Slot (44.1KHz), 88.2KHz when ESP ON
12	ADATAO	O	Serial audio data output of 48 bit/Slot (MSB first), double speed output when ESP ON
13	DVSS1	-	Digital Ground1
14	BCKO	O	Audio data bit clock output of 48 bit/Slot(2.1168MHz), 4.2336MHz when ESP ON
15	C2PO	O	C2 Pointer for output audio data
16	VREFL2	I	Input terminal2 of reference voltage "L"(Floating)
17	VREFL1	I	Input terminal2 of reference voltage "L"(GND connection
18	AVDD2	-	Analog VCC2
19	RCHOUT	O	Right-Channel audio output through D/A converter
20	LCHOUT	O	Left-Channel audio output through D/A converter
21	AVSS2	-	Analog ground2
22	VREFH1	I	Input terminal1 of reference voltage "H" (VDD connection)
23	VREFH2	I	Input terminal2 of reference voltage "H" (Floating)
24	EMPH	O	Emphasis/Non-Emphasis output, H: Emphasis ON, L: Emphasis OFF
25	LKFS	O	The Lock Status output of frame sync
26	S0S1	O	Output of subcode sync signal(S0+S1)
27	RESET	I	System reset at "L"
28	/ESP	I	ESP function ON/OFF control("L": ESP function ON, "H": ESP function OFF)
29	SQCK	I	Clock for output Subcode-Q data
30	SQDT	O	Serial output of Subcode-Q data
31	SQOK	O	The CRC (Cycle Redundancy Check) check result signal output of Subcode-Q)
32	SBCK	I	Clock for output subcode data
33	SDAT	O	Subcode serial data output
34	DVDD1	-	Digital VDD1
35	MUTE	I	Mute control input ("H": Mute ON)
36	MLT	I	Latch Signal input from Micom (Schmit Trigger)
37	MDAT	I	Latch Signal input from Micom (Schmit Trigger)
38	MCK	I	Latch Signal input from Micom (Schmit Trigger)
39	DB8	I/O	SRAM data I/O port8 (MSB)
40	DB7	I/O	SRAM data I/O port7

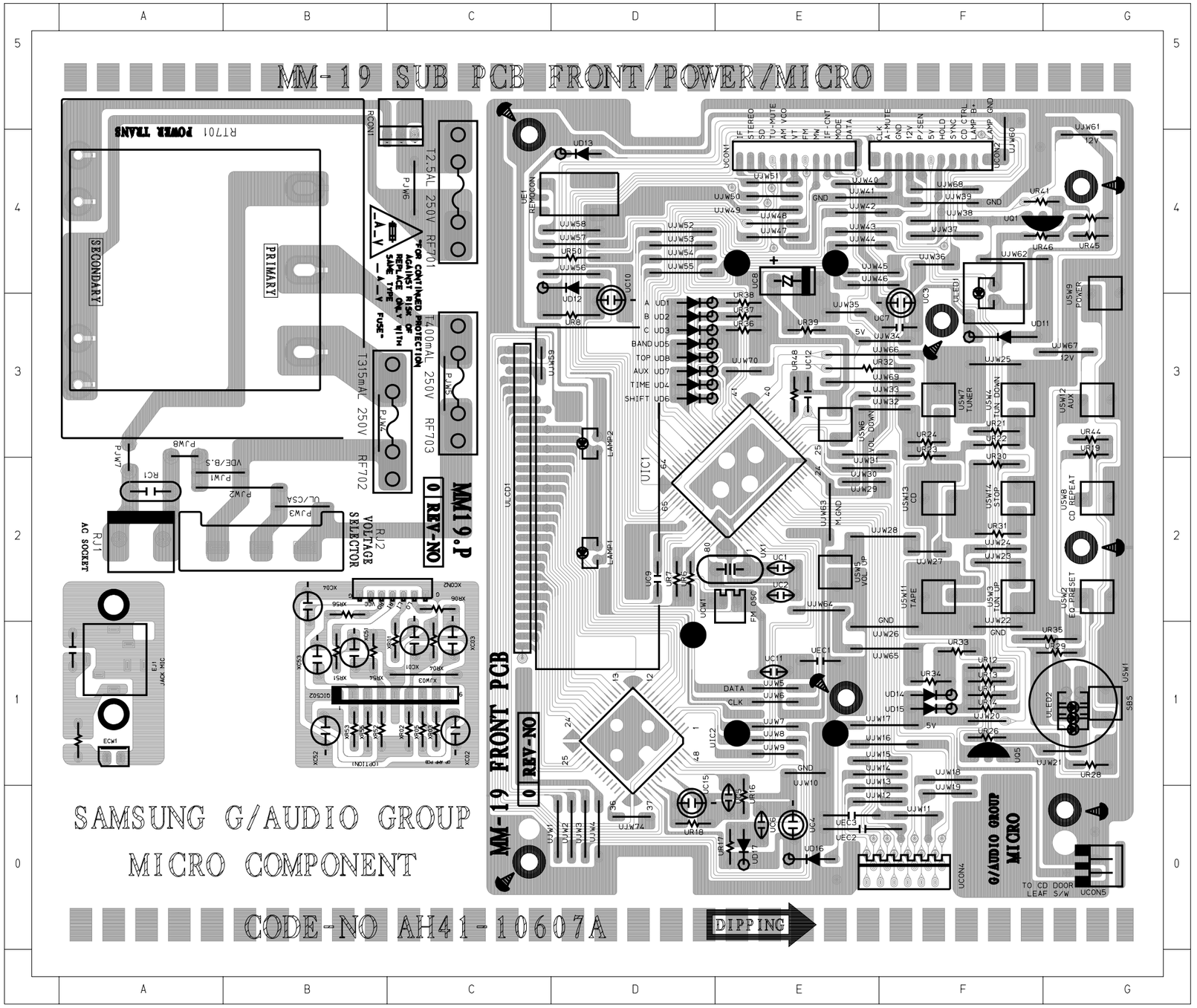
No.	Port	Port	Description
41	DB6	I/O	SARM data I/O port 6
42	DB5	I/O	SARM data I/O port 5
43	DB4	I/O	SARM data I/O port 4
44	DB3	I/O	SARM data I/O port 3
45	DB2	I/O	SARM data I/O port 2
46	DB1	I/O	SARM data I/O port 1 (LSB)
47	C1F1	I/O	Monitoring output for C1 error correction (RA1)
48	C1F2	I/O	Monitoring output for C1 error correction (RA2)
49	C2F1	I/O	Monitoring output for C2 error correction (RA3)
50	C2F2	I/O	Monitoring output for C21 error correction (RA4)
51	C2FL	I/O	C2 decoder flag (RA5, "H" : When the processing C2 code is impossible correction status.)
52	/PBCK	I/O	Output of VCO/2 (4.3218MHz) (RA6)
53	DVSS2	I/O	Digital ground2
54	FSDW	I/O	Window or unprotected frame sync (RA7)
55	ULKFS	I/O	Frame sync protection state (RA8)
56	/JIT	I/O	Display of either RAM overflow or underflow for ±4 frame jitter margin (RA9)
57	C4M	I/O	Only monitoring signal (4.2336MHz) (RA10)
58	C16M	I/O	16.9344MHz signal output (RA11)
59	/WE	I/O	Terminal for test
60	/CS	I/O	Terminal for test
61	XTALSEL	I	Mode Selection1 (H: 33.8688MHz, L:16.9344MHz)
62	TEST0	I	TEST input terminal (GND connection)
63	CDROM	I	Mode Selection2 (H: CD-ROM, L: CDP)
64	SRAM	I	TEST input terminal (GND connection)
65	TEST1	I	TEST input terminal (GND connection)
66	EFMI	I	EFM signal input
67	ADATAI	I	Serial audio data input of 48 bit/Slot (MSB first)
68	/ISTAT	O	The internal status output
69	TRCNT	I	Tracking counter input signal
70	LOCK	O	Output signal of LKFS condition sampled PBFR/16 (if LKFS is "H", LOCK is "H", if LKFS is sampled "L" at least 8 times by PBFR/16, LOCK is "L")
71	PBFR	O	Write frame clock (Lock: 7.35KHz)
72	SMEF	O	LPF time constant control of the spindle servo error signal
73	SMON	O	ON/OFF control signal for spindle servo
74	DVDD2	-	Digital VDD2
75	SMDP	O	Spindle Motor drive (Rough control in the SPEED mode, Phase control in the PHASE mode)
76	SMSD	O	Spindle Motor drive (Velocity control in the PHASE mode)
77	BCKI	I	Audio data bit clock input of 48 bit/Slot (2.1168MHz)
78	TESTV	I	TEST input terminal (GND connection)
79	DSPEED	I	TEST input terminal (VDD connection)
80	LRCHI	I	Channel clock input of 48 bit/Slot (44.1KHz)

5. PCB Diagrams

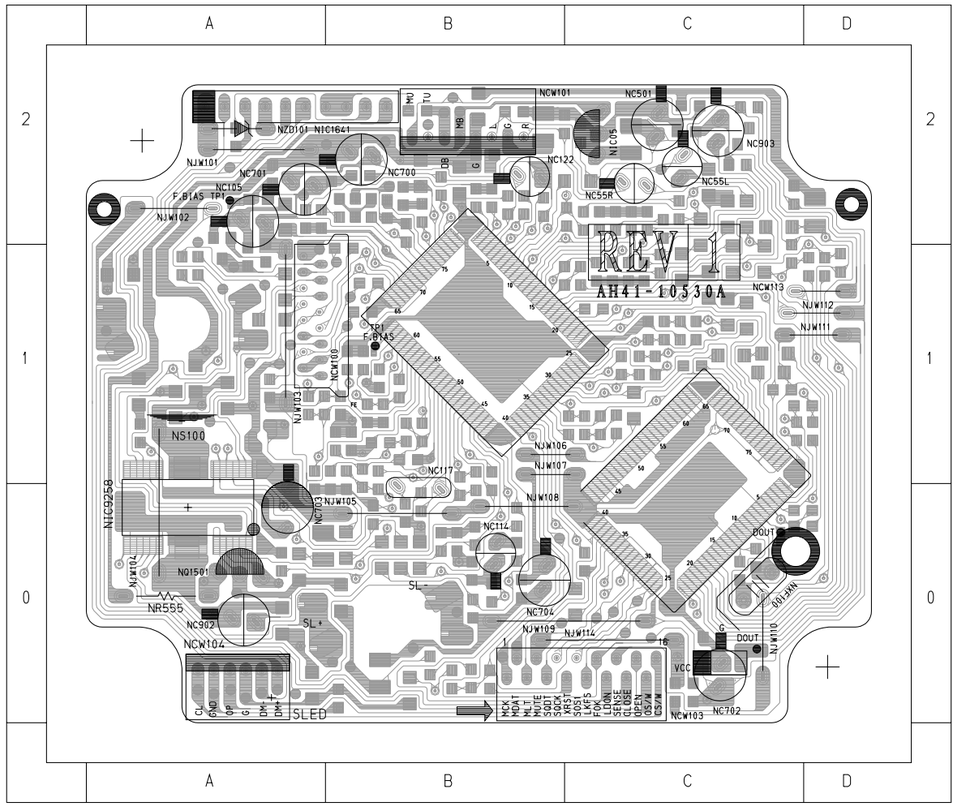
5-1 Main



5-2 SUB (Front/Power/Mic)



5-3 CD



*** CHIP ***

IC9223 (B1)
IC9258 (A0)
IC9286 (B0)
NC100 (B2)
NC101 (B2)
NC102 (B2)
NC103 (B2)
NC104 (A1)
NC106 (B2)
NC107 (B1)
NC108 (B1)
NC110 (B1)
NC111 (B1)
NC112 (B1)
NC113 (B1)
NC115 (B0)
NC116 (B0)
NC117 (B2)
NC118 (B0)
NC119 (B1)
NC120 (C1)
NC121 (C1)
NC124 (C1)
NC125 (C1)
NC190 (A2)
NC200 (D1)
NC2000 (B2)
NC201 (C0)
NC202 (C0)
NC203 (C0)
NC204 (C1)
NC205 (C1)
NC300 (C2)
NC301 (B2)
NC400 (C2)
NC500 (A2)
NC502 (C2)
NC50L (C1)
NC50R (C1)
NC52L (C1)
NC52R (C2)
NC53L (C1)
NC53R (C2)
NC54L (D1)
NC54R (C1)
NC602 (B0)
NC603 (B1)
NC800 (B0)
NC804 (B1)
NC901 (C0)
NC902 (C0)
NC903 (B1)
NC904 (A1)
NC905 (B0)
ND200 (C2)
ND201 (C2)
NJR102 (B2)
NJR103 (A2)
NJR104 (A2)
NJR105 (C1)
NJR106 (C1)
NJR107 (C1)
NJR108 (C1)
NJR110 (B0)
NJR111 (B0)
NJR112 (B0)
NJR113 (B0)
NJR114 (B0)
NJR115 (B0)
NJR116 (A1)
NJR117 (A1)
NJR118 (B1)
NJR127 (C2)
NJR129 (C2)
NJR131 (B2)
NJR132 (B2)
NJR133 (A1)
NJR134 (A1)
NJR135 (A1)
NJR136 (A1)
NJR137 (A1)
NJR138 (A1)
NJR139 (A1)
NJR140 (A1)
NJR141 (A1)
NJR142 (A1)
NJR143 (A0)
NJR144 (A0)
NJR145 (B0)
NJR146 (A0)
NJR147 (A0)
NJR148 (B0)
NJR149 (B0)
NJR150 (B0)
NJR151 (C0)
NJR152 (C0)
NJR153 (C0)
NJR154 (C1)
NJR155 (C1)
NJR156 (C1)
NJR300 (C1)
NJR301 (C2)
NJR302 (C2)
NJR303 (C2)
NJR304 (C2)
NJR305 (C2)
NJR306 (C1)
NJR307 (C2)
NJR308 (B2)
NJW320 (B2)
NL100 (B0)
NL300 (D2)
NL301 (C2)
NL302 (B2)
NL303 (A0)
NQ1502 (A1)
NR100 (B2)
NR101 (A1)
NR102 (A1)
NR103 (B1)
NR103 (B1)
NR104 (B0)
NR105 (B0)
NR106 (B0)
NR107 (B1)
NR108 (B1)
NR109 (B1)
NR111 (B0)
NR112 (B0)
NR113 (C1)
NR114 (C1)
NR115 (C1)
NR116 (B2)
NR117 (B2)
NR118 (B1)
NR119 (C1)
NR120 (B2)
NR121 (B2)
NR200 (C1)
NR201 (C0)
NR202 (C1)
NR203 (C1)
NR204 (C1)
NR300 (C1)
NR400 (B0)
NR401 (B1)
NR50L (C1)
NR50R (C2)
NR52L (C1)
NR52R (C2)
NR53L (C1)
NR53R (C2)
NR54L (C1)
NR54R (C2)
NR55L (C1)
NR55R (C2)
NR56L (D1)
NR56R (D1)
NR57L (B2)
NR57R (C2)
NR601 (B1)
NR602 (B1)
NR603 (B1)
NR604 (B1)
NR606 (B0)
NR804 (B0)

*** CONDENSER ***

NC105 (A2)
NC114 (B0)
NC117 (B0)
NC122 (B2)
NC501 (C2)
NC55L (C2)
NC55R (C2)
NC700 (B2)
NC701 (A2)
NC702 (C0)
NC703 (A0)
NC704 (B0)
NC902 (A0)
NC903 (C2)

*** RESISTOR ***

NR555 (A0)

*** DIODE ***

NZD101 (A2)

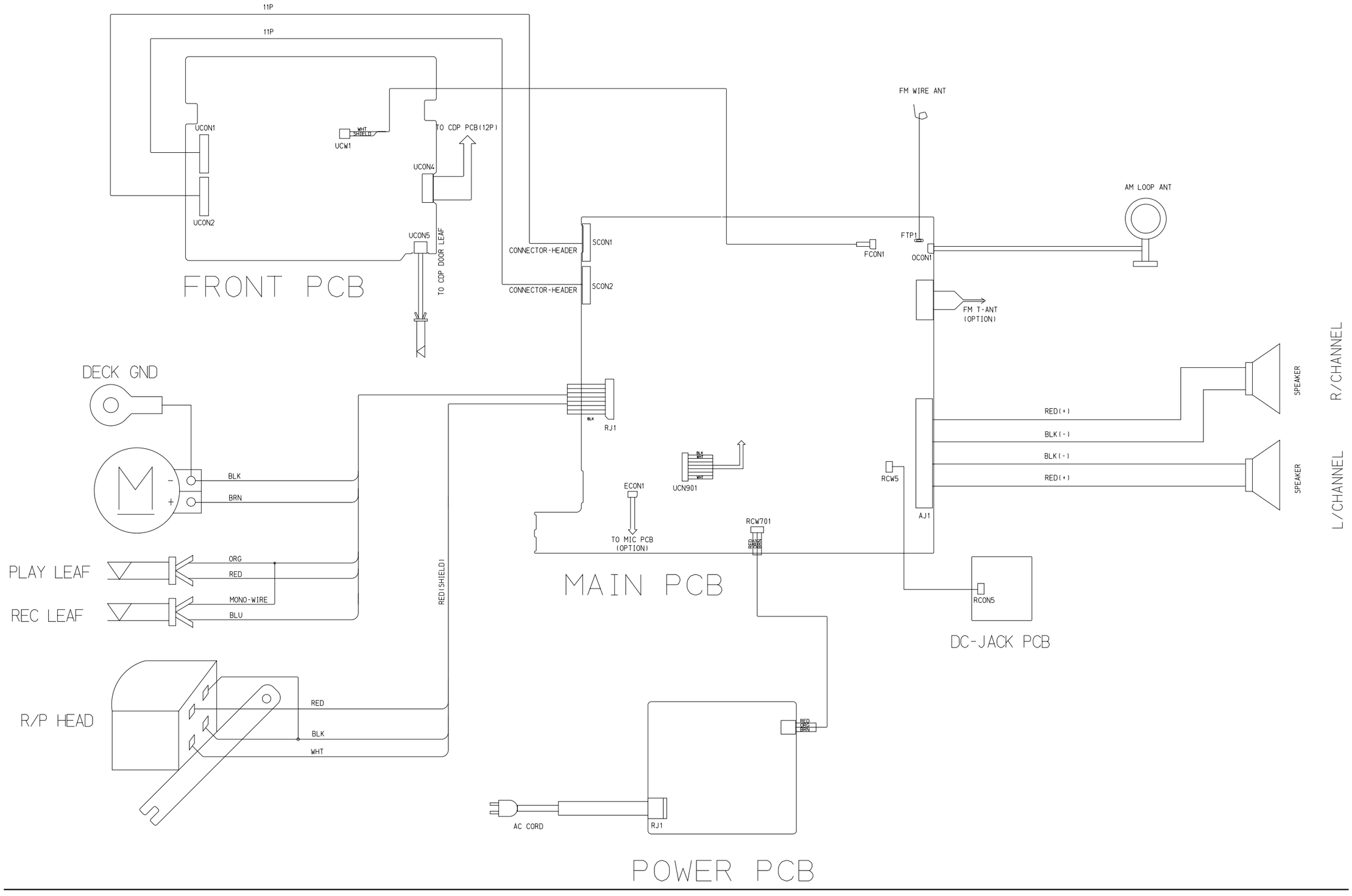
*** TR ***

NIC05 (C2)
NQ1501 (A0)

*** IC&WAFER ***

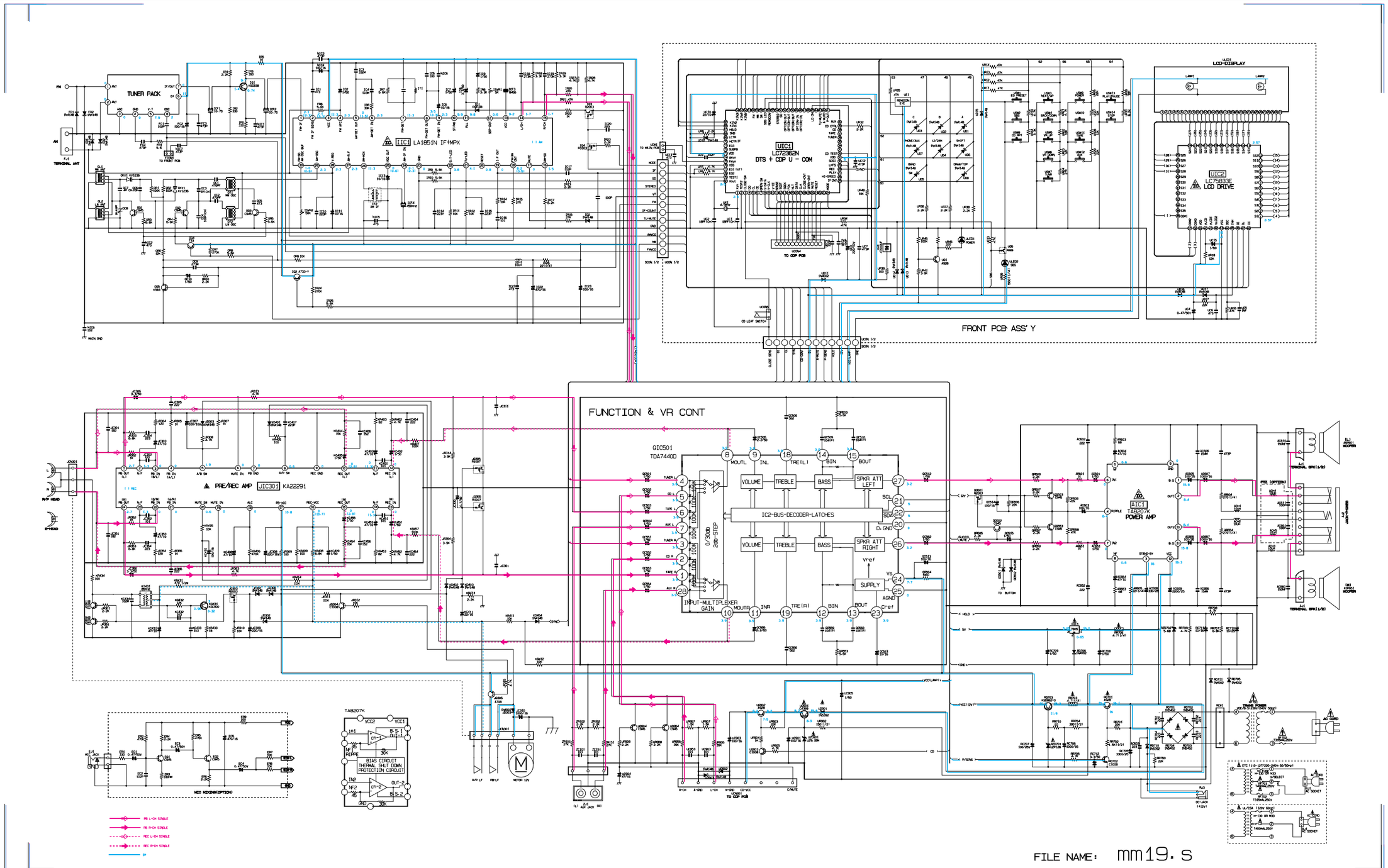
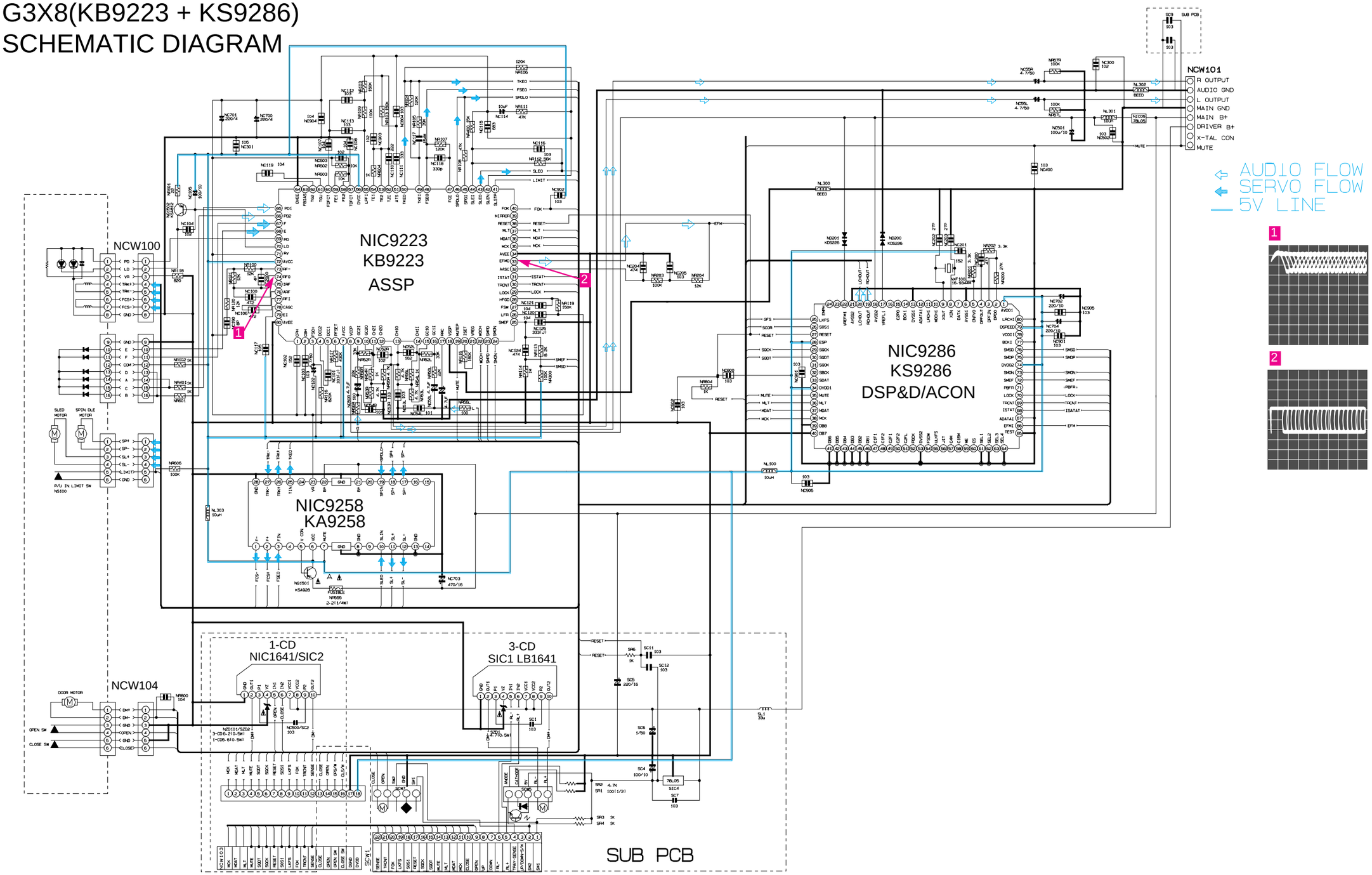
NCW101 (B2)
NCW104 (A0)
NIC1641 (A2)

6. Wiring Diagram



7. Schematic Diagrams

7-1 Main



G3X8(KB9223 + KS9286)
SCHEMATIC DIAGRAM